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WILDLIFE REVIEW

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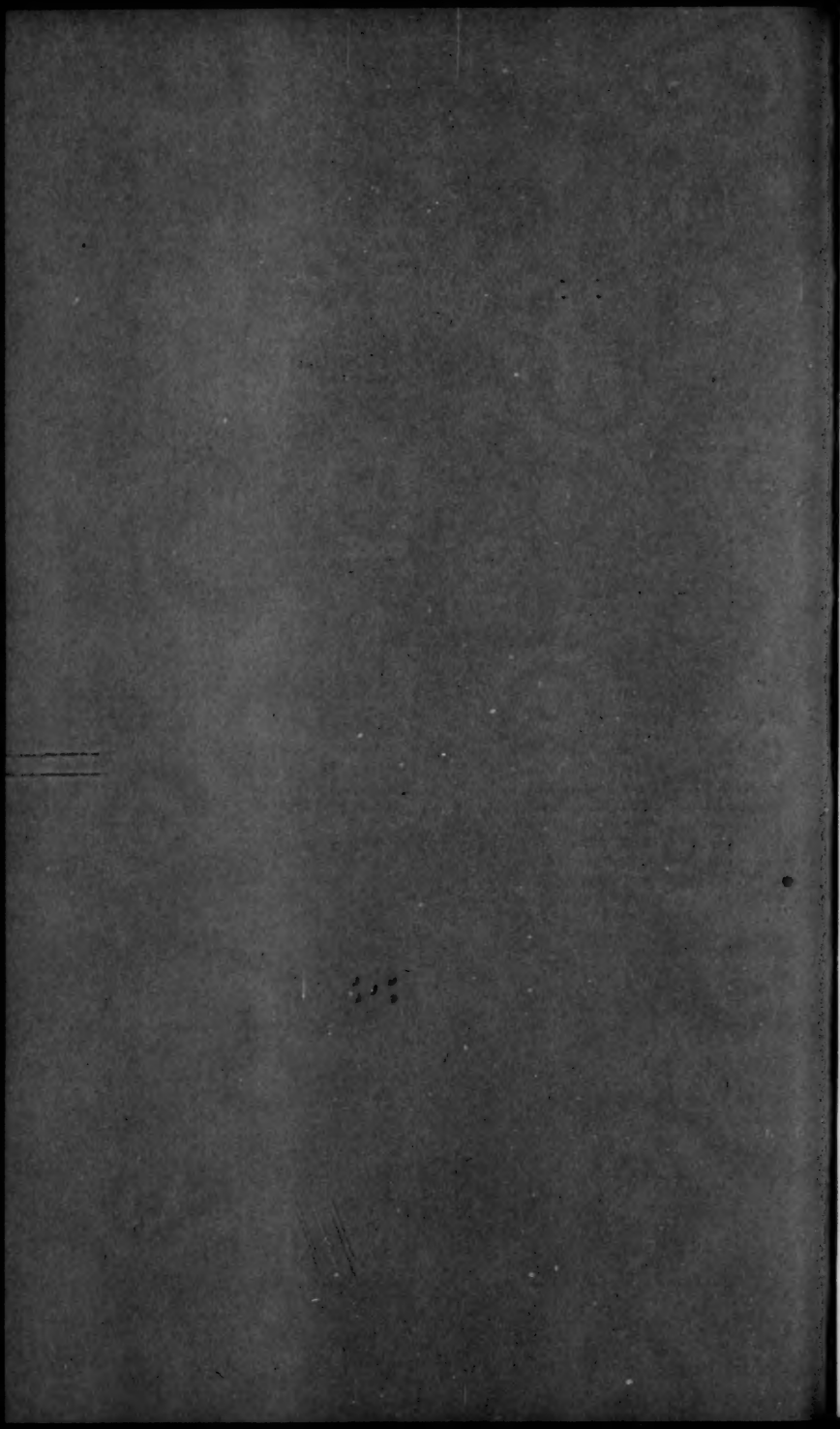

WILDLIFE REVIEW

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor,
and Paul A. Stewart, assistant editor.

NATURAL RESOURCES & CLIMATE

Karvik, Nils-Gerhard. THE TERRESTRIAL VERTEBRATES OF DALSLAND IN SOUTHWESTERN SWEDEN / A ZOOGEOGRAPHIC STUDY. Acta Vertebratica 3(1). 239 p., 72 figs. 1964. In English with Swedish summ. WR 116: 2

The geology, climate and vegetation, and the occurrence and distribution of certain northern and southern terrestrial vertebrates (primarily birds) are discussed in the first part of this paper. Part II deals with the author's quantitative investigations of the bird fauna in the forests of Dalsland. The final part consists of a list of all the terrestrial vertebrates found in this central Swedish province.--From summ.

SOILS

Abernathy, Edward J., and Robert C. Reasoner. SOIL SURVEY OF STEPHENS COUNTY, OKLAHOMA. SCS, Ser. 1960, no. 20. i + 64 p., 18 figs. + single-fold maps based on aerial photos and bound in. Nov. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

Arkley, Rodney J., and others. SOIL SURVEY OF THE EASTERN STANISLAUS AREA, CALIFORNIA. SCS, Ser. 1957, no. 20. i + 160 p., 27 figs. + folded maps based on aerial photos and bound in. Sept. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

Davis, Hugh T., and Jerry A. Pilkinton. SOIL SURVEY OF SPALDING COUNTY, GEORGIA. SCS, Ser. 1961, no. 10. i + 65 p., 8 figs. + single-fold maps based on aerial photos and bound in. Oct. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

Greenawalt, Ross D., and others. SOIL SURVEY OF WASHINGTON COUNTY, NEBRASKA. SCS, Ser. 1957, no. 19. i + 79 p., 23 figs. + folded maps based on aerial photos and bound in. Sept. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife and its management.

Mayers, Leo R., and others. SOIL SURVEY OF SHERMAN COUNTY, OREGON. SCS, Ser. 1959, no. 37. i + 104 p., 27 figs. + single-fold maps based on aerial photos and bound in. Nov. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

Newland, Claude T., and others. SOIL SURVEY OF OTTAWA COUNTY, OKLAHOMA. SCS, Ser. 1960, no. 22. i + 60 p., 15 figs. + single-fold maps based on aerial photos and bound in. Nov. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

Preston, Darwin G., and others. SOIL SURVEY OF CLARK COUNTY, KENTUCKY. SCS, Ser. 1961, no. 11. i + 122 p., 17 figs. + single-fold maps based on aerial photos and bound in. Oct. 1964. Sold by Supt. Documents. WR 116: 2

With a section on use of the soils for wildlife.

Sanders, F. W., and others. SOIL SURVEY OF OWEN COUNTY, INDIANA. SCS, Ser. 1959, no. 38. i + 121 p., 17 figs. + single-fold maps based on aerial photos and bound in. Oct. 1964. Sold by Supt. Documents. WR 116: 2

With a section on wildlife.

CONSERVATION EDUCATION

Osborn, Katherine H., Ray A. Yoder, and William I. West. FORESTRY THESES ACCEPTED BY COLLEGES AND UNIVERSITIES IN THE UNITED STATES / SUPPLEMENT JULY 1962-JUNE 1963 INCLUDING ADDITIONS FOR 1933-JUNE 1962. Forest Sci. 10(3): 371-384. Sept. 1964. WR 116: 3

The subject index with this contribution contains reference to more than 30 theses with material on wildlife. Theses are grouped as to institutions.

Shomon, Joseph J. MANUAL OF OUTDOOR CONSERVATION EDUCATION. (Information-Education Bulletin No. 3.) Natl. Audubon Soc. 96 p., illus. 1964. Price $2.00 from Natl. Audubon Soc., Nature Center Div., 1130 Fifth Ave., New York, N. Y. WR 116: 3

"The purpose of this bulletin is to put into proper perspective some concepts in outdoor conservation education and to bring together in one brief volume some guidelines for leaders--directors, teachers, and naturalists, as well as administrators of outdoor facilities--on how they can do a better teaching job using the outdoor environment as a classroom."

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Neff, Don J. A COMPARISON OF PAINTS FOR MARKING BROWSE TWIGS. J. Wildl. Mgmt. 28(4): 868-869. Oct. 1964. WR 116: 3

[Ariz. Game & Fish Dept., Prescott.] Abstract: Paints to mark browse twigs for the purpose of measuring growth were tested on three browse species near Prescott, Arizona, in 1959. Paints used were synthetic base enamel, linseed-base house paint, latex-base flat paint, asphalt-base aluminum paint, and butyrate dope. There proved to be no observable effect of paint treatment on twig elongation or mortality for any of the five paints tested; all were easy to apply except the linseed-base paint; first choice for durability and ease of application was the synthetic enamel.

Nixon, Charles M. AN IMPROVED METHOD OF MAPPING FORESTED AREAS. J. Wildl. Mgmt. 28(4): 870-871, 1 fig. Oct. 1964. WR 116: 3

[Waterloo Wildl. Expt. Sta., New Marshfield, Ohio.] Abstract: A 1-chain-square grid overlay inked on the field map was found to improve accuracy and reduce time in preparing cover maps for rough forested terrain when only hand compass and pacing methods are available for orientation.

Smith, Ralph H. SOME EXPERIMENTAL SHRUB PLANTINGS--20 YEARS LATER. N. Y. Fish & Game J. 11(2): 91-105. July 1964. WR 116: 3

[2-A Ridge Rd., Delmar, N. Y.] Observations on success of experimental planting made in the early 1940's of 61 spp. of shrubs for wildlife food. Contains much of the same material as an article by Arthur W. Holweg in this issue of WR.

Toth, S. J., P. McLain, and L. G. MacNamara. FERTILIZATION OF BURNET FOR GAME FOOD ON LAKEWOOD SAND SOILS. J. Wildl. Mgmt. 28(4): 840-845, 1 fig. Oct. 1964. WR 116: 3

[N. J. State Univ., New Brunswick.] Abstract: Field tests were conducted for 3 years on a Lakewood sand to determine the fertilizer needs of burnet (Sanguisorba minor), which is grown as a bird and game animal feed in New Jersey on public hunting and fishing areas. Maximum burnet seed yields were obtained when 600 pounds of a 5-10-10 fertilizer were broadcast over established stands in the spring of each year. The most economical fertilizer practice for producing seed yields and high quality forage involves topdressing established stands of burnet in the spring with 300 pounds of 5-10-10 fertilizer followed by topdressing with 50 pounds of inorganic N per acre after seed maturation.

PLANTS--FOREST SURVEYS

Ferguson, Roland H. THE TIMBER RESOURCES OF WEST VIRGINIA. U. S. Forest Serv. Resource Bull. NE-2. 123 p., 17 figs. 1964. WR 116: 4
Based on a recently completed survey of the forestry resources of W. Va., comparison is made with conditions described in a report (WR 71: 53) covering a survey made during 1946-1949. Almost three-fourths of the land area of W. Va. is now forested.

Miller, Robert L., and Grover A. Choate. THE FOREST RESOURCE OF COLORADO. U. S. Forest Serv. Resource Bull. INT-3. 55 p., illus. 1964. WR 116: 4
[Rocky Mountain Forest & Range Expt. Sta., Fort Collins, Colo.] Abstract: The first complete inventory of Colorado's 22.6 million acres of forest land shows 12.3 million acres of commercial forest with a volume of 52.7 billion board feet in sawtimber trees. Although timber use has almost quadrupled since 1935, Colorado's timber cut in relation to its inventory is the lowest of the Mountain States. Discusses problems in managing and increasing the cut from the State's big area of old-growth forest. Other forest values -- water, forage, and recreation -- are also examined from the standpoint of trends in use and present and anticipated future importance to the State and the Nation.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Barrera, A. LA PENINSULA DE YUCATAN COMO PROVINCIA BIOTICS. [THE YUCATAN PENINSULA AS A BIOTIC PROVINCE.] Rev. Soc. Mex. Hist. Nat. 23: 71-105, maps. 1962. [From Biol. Abstr. 45(2), 1964. In Spanish.] WR 116: 4
[Esc. Nac. Cienc. Biol., I. P. N., Mexico City, Mexico.]

Harper, Francis. PLANT AND ANIMAL ASSOCIATIONS IN THE INTERIOR OF THE UNGAVA PENINSULA. Univ. Kans. Museum Nat. Hist. Misc. Publ. no. 38. 58 p., 7 figs., 1 map. 20 Apr. 1964. Paperbound, 50¢ from Arctic Inst. North America, 1619 New Hampshire Ave., NW, Washington, D. C., 20009. WR 116: 4
Lists the more common trees, shrubs, vascular plants, mosses, hepatics and lichens found in the Hudsonian and Arctic-alpine zones based on surveys of 18 areas. Mammals and birds are tabulated for several habitats.

Manville, Richard H. THE VERTEBRATE FAUNA OF ISLE AU HAUT, MAINE. Am. Midland Nat. 72(2): 396-407, 3 figs. Oct. 1964. WR 116: 4
[US FWS, Washington, D. C.] Based on 2 weeks of field work in the summer of 1963, lists are presented as follows: freshwater fishes, 5 spp.; amphibians, 3 spp.; reptiles, 3 spp.; birds, 123 spp.; mammals, 15 spp.--From abstr.

Reimers, N. F. [THE CENSUS OF BIRDS AND SMALL MAMMALS IN THE UPPER TAIGA OF THE SOUTHERN PART OF CENTRAL SIBERIA.] Zool. Zhur. 37(8): 1214-1222. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 44217. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 4

Tarasov, P. [INTRASPECIFIC RELATIONS AND PROBLEMS IN GAME MANAGEMENT.] Okhota & Okhotnich'e Khoz. 11: 24-26. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 57999. Transl. of Russian abstr.] WR 116: 4
Data are presented proving the existence of intraspecific struggle among birds and mammals, especially in the case of worsening of living conditions. The effects of increase in numbers, epizootics during overpopulation, cannibalism, competition among nursing animals, and territorialism are considered. The biological significance of scent glands, whose secretions the animals use to mark the borders of individual plots, was examined in the light of intraspecific competition.

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Baird, James. HOSTILE DISPLAYS OF ROSE-BREASTED GROSBEAKS TOWARDS A RED SQUIRREL. Wilson Bull. 76(3): 286-289, 1 fig. Sept. 1964. WR 116: 5
[Mass. Audubon Soc., Lincoln.] Displays are described and illustrated.

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Fedorenko, A. [TOXIC CHEMICALS AND PARTRIDGES.] Okhota & Okhotnich'e Khoz. 2: 21-22. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11181. Transl. of Russian abstr.] WR 116: 5
Partridges feeding on grain treated with polychorpinene, the herbicide 2,4-D, and zinc phosphide and on untreated grain did not eat the first three. When the grain was treated with DDT and BHC dusts (25-30 kg per hectare, or 125-130 mg per 100 g grain), the partridges did not show any discrimination. There were no deaths among the birds when only treated grain was fed for 19 days, but weight losses were noted. Death occurred when the treatment norm was increased 9- or 15-fold. The toxic chemicals mentioned cannot cause massive loss of partridges when proper directions for their use are observed.

Kaplan, Harold M., and James G. Overpeck. TOXICITY OF HALOGENATED HYDROCARBON INSECTICIDES FOR THE FROG, RANA PIPIENS. Herpetologica 20(3): 163-169. Sept. 1964. WR 116: 5
[Southern Ill. Univ., Carbondale.] Summary: Frogs immersed for long periods in commonly used halogenated hydrocarbon insecticide solutions suffered ill effects in concentrations that in most cases were less than 1 p.p.m. Morbidity or death occurred at or above certain concentrations. The pathologic signs included changes in the color of the skin, digestive upsets, postural defects, lethargy, convulsions, and depression of the total red and white cell counts.

Kinney, Edward C. EXTENT OF ACID MINE POLLUTION IN THE UNITED STATES AFFECTING FISH AND WILDLIFE. US F&WS Circ. 191. iii + 27 p., 14 figs. June 1964. WR 116: 5
Questionnaire replies from the 50 state fish and game departments indicated that 5,980 miles of streams and 14,967 acres of impoundments in the U. S. have potentials for supporting fish and wildlife not now being realized because of acid pollution.

Moore, N. W. CONTAMINATION OF FRESH WATER BY PERSISTENT ORGANO-CHLORINE INSECTICIDES. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 243-244. 1964. In English with French summ. WR 116: 5
[Nature Conservancy, Monks Wood Exptl. Sta., Huntingdon, England.] "The highest residues were found in predators which feed on vertebrate prey. Among the predators much the highest residues were found in Herons (Ardea cinerea) and Great Crested Grebes (Podiceps cristatus); both of these species are fish eaters."

Nicholson, H. Page, Alfred R. Grzenda, Gerald J. Lauer, William S. Cox, and John I. Teasley. WATER POLLUTION BY INSECTICIDES IN AN AGRICULTURAL RIVER BASIN. I. OCCURRENCE OF INSECTICIDES IN RIVER AND TREATED MUNICIPAL WATER. Limnol. & Oceanog. 9(3): 310-317, 1 fig. July 1964. WR 116: 5
[Public Health Serv., Atlanta, Ga.] Water samples were periodically collected from northern Ala. streams which drain about 400 square miles of cotton-growing land during 1959-1962. DDT, which was used in substantial quantities in the basin, was absent from all samples. Recovery of toxaphene appeared to be independent of its agricultural usage. Recovery of BHC was related to use in the basin.

Otterline, Gunnar. BIOCIDERNA, FÅGELFAUNAN OCH FÖRFATTNINGARNA. [BIOCIDES, THE AVIFAUNA, AND LEGISLATION.] Vår Fågelvärld 23: 26-42. 1964. [From Bird-Banding 35(4), 1964. In Swedish with English summ.] WR 116: 5

Pivovarova, E. [THE DANGER OF POISONING WILD ANIMALS WITH FERTILIZERS AND TOXIC CHEMICALS.] Okhota & Okhotnich'e Khoz. 2: 15-16. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1960, no. 1757. Transl. of Russian abstr.] WR 116: 6

Cases of poisoning with insecticides and inorganic fertilizers are observed primarily if excessive quantities of these substances are used.

Schnell, Jay H. SOME EFFECTS OF NEUTRON-GAMMA RADIATION ON LATE SUMMER BIRD POPULATIONS. Auk 81(4): 528-533, 2 figs. Oct. 1964. WR 116: 6

[Lab. Radiation Ecol., AEC Savannah River Plant, Aiken, S. C.] "Apparently, radiation affected the territorial birds adversely, but since no dead birds were found it could not be determined whether the disappearances were due to radiation mortality, reduction of the singing urge due to radiation sickness, or emigration as a result of radiation flux."

Snyder, Benjamin Donald. THE EFFECTS OF ENDRIN ON VOLE (MICROTUS PENNSYLVANICUS) REPRODUCTION IN BLUEGRASS MEADOWS. Ph.D. thesis, Ohio State Univ. ix + 119 p., 15 figs. 1963. WR 116: 6

Endrin applied at 0.6 lb./acre caused no reduction in a meadow vole population, while applications of 0.9, 1.3, and 2.0 lb./acre caused reductions of 95, 92, and 71 per cent, respectively. Reduction was significantly greater in the female than in the male population at 2.0 lb./acre, where there was an intermediate reduction in the overall population. Application of both 0.6 and 2.0 lb./acre caused a reduction in the number of litters produced 2 months after treatment. Other investigated aspects of reproduction were not significantly affected.--From auth. abstr.

Taylor, A., and J. Brady. CHLORINATED PESTICIDE RESIDUES IN WILD BIRD EGGS. Bird Study 11(3): 192-197. Sept. 1964. WR 116: 6

[Ministry Agr., Fisheries & Food, Tolworth, Surrey, England.] Summary: Levels of chlorinated pesticides in eggs of eight species of wild birds are tabulated. The significance of the amount found is discussed.

van den Hoek, J., J. A. Eygenraam, and W. J. Doude van Troostwijk. RESEARCH ON RADIOACTIVE CONTAMINATION IN GEESE. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 245-249. 1964. In English with French summ. WR 116: 6

[Inst. Appl. Atomic Sciences Agr., Wageningen, Netherlands.] "Although geese populations and probably other migratory birds, too, seem not yet to suffer from radio nuclides accumulated in the body, further research will be needed to provide the necessary information. It is believed that the White-fronted Goose is a suitable indicator species."

Watson, Adam, and Neville C. Morgan. RESIDUES OF ORGANO-CHLORINE INSECTICIDES IN A GOLDEN EAGLE. British Birds 57(9): 341-344. Sept. 1964. WR 116: 6

[Univ. Aberdeen, Aberdeen, Scotland.] A golden eagle (Aquila chrysaëtos) was found dead in an area where chlorinated hydrocarbons were not known to have been used, and analysis showed the bird's tissues to contain residues of lindane, heptachlor epoxide, dieldrin, and DDE. The bird had been present for at least 6 months in the area where it was found dead.

WILDLIFE--PARASITES & DISEASES

Zumpt, F. NUTTIGE WETENSKAPLIKE WERK OOR DIE PARASIETE VAN WILDE DIERE IN TRANSVAAL. [USEFUL KNOWLEDGE ON THE PARASITES OF WILDLIFE IN TRANSVAAL.] Fauna & Flora (Pretoria) 14: 15-23, [5 figs.]. 1963. In Afrikaans. WR 116: 6

WILDLIFE--POPULATIONS & FLUCTUATIONS

Tarasov, M. P. [GAME ANIMALS OF WESTERN KHAMAR-DABAN.] Uch. Zap. Buryatsk. Gos. Ped. Inst. 24: 91-100. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 8I227. Transl. of Russian abstr.] WR 116: 7
Population indices are given for all game animals.

Wing, Leonard W. THE EFFECT OF LATITUDE ON CYCLES. In: (Rhythmic functions IN THE LIVING SYSTEM, 1961.) Ann. N. Y. Acad. Sci. 98(4): 1202-1205. 1962. [From Biol. Abstr. 45(2), 1964.] WR 116: 7
[Found. Study Cycles, Ann Arbor, Mich.]

WILDLIFE--BIOMETRICS

Cormack, R. M. ESTIMATES OF SURVIVAL FROM THE SIGHTING OF MARKED ANIMALS. Biometrika 51(3&4): 429-438. Dec. 1964. WR 116: 7
[Univ. Aberdeen, Aberdeen, Scotland.] Summary: For a particular type of capture-recapture experiment in which previously marked individuals can be indentified without actual recapture, the maximum-likelihood estimate of survival and the asymptotic variance of this estimate are explicitly obtained. The assumptions required for the model are examined critically with respect to an example on the fulmar petrel.

WILDLIFE--TECHNIQUES

Bykovskii, V. A. [APPLICATION OF RADIOACTIVE PHOSPHOROUS FOR SELF-LABELLING IN A WARM-BLOODED BIOCOENOSIS.] In: (Materials of the symposium on use of biophysics in field of plant protection.) (Leningrad.) p. 32-33. 1961. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1963, no. 3I282. Transl. of Russian abstr.] WR 116: 7

Holweg, Arthur W. SOME SHRUBS AND VINES FOR WILDLIFE FOOD AND COVER. [N. Y.] Conservationist 19(2): 22-27, illus. Oct.-Nov. 1964. WR 116: 7
[R.F.D. 2, Castleton, N. Y.] With discussions of wildlife values of 27 spp. Colored illustrations are included for most species.

Lassiter, Bill. CATOOSA RESEARCH PROJECT / ONE OF THE MANY PROJECTS UNDER WAY TO GIVE TENNESSEE SPORTSMEN BETTER HUNTING. Tenn. Conserv. 30(9): 12-14, 7 figs. Sept. 1964. WR 116: 7
X-raying of May-trapped does was used effectively in the prediction of the annual fawn crop. Some details of the techniques used are presented.

Radvanyi, Andrew. TWO HELPFUL USES OF "TERYLENE" FOR BIOLOGISTS. Canadian Field-Nat. 78(4): 268. Oct.-Dec. 1964. WR 116: 7
[Canadian Wildl. Serv., Edmonton, Alberta, Canada.] Terylene, a synthetic fiber similar to Dacron, is recommended for use in filling bird skins and as nesting material in live traps for small mammals.

Selander, Robert K., Richard F. Johnston, and Terrell H. Hamilton. COLORIMETRIC METHODS IN ORNITHOLOGY. Condor 66(6): 491-495, 4 figs. Nov. 1964. WR 116: 7
[Univ. Texas, Austin.] Descriptions of two instruments of use for studying color variations among birds: (1) Bausch and Lomb Spectronic 20 Colorimeter equipped with a color analyzer reflectance attachment, and (2) Macbeth Super Color Matching Skylight (Model BX-848A).

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Gabrielson, Ira N. COORDINATION OF CONSERVATION PROGRAMS. Wildl. in N. C. 28(9): 16-18, illus. Sept. 1964. WR 116: 8

[Wildl. Mgmt. Inst., Wire Bldg., Washington, D. C.] Conflict of interests at various levels of government and of different agencies within the federal government have resulted in poor resource use planning. What is needed is "a small committee of outstanding citizens to study natural resource proposals and make recommendations to the President for possible transmission to the Congress. Such a Commission should be composed of citizens who have a broad interest in resource problems and who have not been and are not now connected with any of the agencies making the proposals. The present interagency committee system is weak, because each committee member is more or less obligated to represent his agency's viewpoint."

Klumov, S. K. [COMMERCIAL GAME ANIMALS FROM THE KURILE ISLANDS. (MEASURES FOR THEIR PROTECTION AND THE ENRICHMENT OF FAUNA).] Okhrana Prirody & Ozelenenie (Moscow) 3: 9-29. 1960. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 12I256. Transl. of Russian abstr.] WR 116: 8

Kuznetsov, B. A. [RECONSTRUCTION OF THE USSR FAUNA AND MEASURES FOR ITS ADDITIONAL IMPROVEMENT.] Dokl. Mosk. Sel'skokhoz. Akad. Im. K. A. Timiryazeva 37: 140-145. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 58010. Transl. of Russian abstr.] WR 116: 8

Measures for increasing the number of beneficial animals by acclimatization, reestablishment, natural hybridization, crossbreeding, and biotechnical measures in the hunting trade are discussed. Methods for reducing the number of, or exterminating, animals harmful to the national economy and human health are reviewed in general. Examples are given of the successful acclimatization of game animals and effective control of harmful ones.

Muñoz Goyanes, Guillermo. LA PROTECCIÓN DE LA RIQUEZA CINEGÉTICA Y LA HOMOLOGACIÓN DE LOS TROFEOS DE CAZA EN ESPAÑA. [PROTECTION OF GAME RESOURCES AND REGISTRY OF HUNTING TROPHIES IN SPAIN.] Montes (Madrid) 19(109): 25-34, illus. 1963. [From Biol. Abstr. 45(7), 1964. In Spanish.] WR 116: 8

WILDLIFE--HUNTING AREAS & PROBLEMS

Hutt, Art. THROUGH FEDERAL AID, AN ASSURANCE OF OUR HUNTING FUTURE ... WILDLIFE MANAGEMENT. Fla. Wildl. 18(6): 16-19, 33, illus. Nov. 1964. WR 116: 8

More than three million acres are currently being leased and managed by the Fla. Game & Fresh Water Fish Comm. to provide public hunting. Leaseholders are paid two cents per acre each year, and hunters pay $3.00 to $5.00 for permits, depending upon the area. The lease system is considered to be entirely satisfactory.

WILDLIFE--INTRODUCTIONS

Pavlinin, V. N., and S. S. Shvarts. [PROSPECTIVE PLANNING OF ACCLIMATIZATION MEASURES (USING THE URALS AS AN EXAMPLE).] Trudy Inst. Biol. Ural'sk. Fil. Akad. Nauk SSSR 24: 1-43, illus. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 8I226. Transl. of Russian abstr.] WR 116: 8

Yurkin, M. V. [EXPERIENCE WITH THE ACCLIMATIZATION AND REACCLIMATIZATION OF ANIMALS IN THE KOMI ASSR.] In: (Nature conservation in the Komi ASSR.) (Syktyvkar.) p. 87-93. 1961. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1962, no. 24I298. Transl. of Russian abstr.] WR 116: 8

WILDLIFE--ECONOMIC & OTHER VALUES

[Bureau of Land Management.] WILDLIFE ON THE PUBLIC LANDS. [35 p.], illus. 1964. Available from Supt. Documents, GPO, Washington, D. C., at 35¢. WR 116: 9

An attractive publication with colored photographs of landscapes and wildlife, chiefly the latter. The text contains popularly written discussions of ecology of deserts, grasslands, forests, tundra, lakes, and streams. The locations of public lands and distribution of large mammals on these lands are mapped. Estimated big game populations on BLM lands are tabulated by state and species.

Romanov, A. N. [THE CHANGE OF FAUNA UNDER THE INFLUENCE OF MAN'S ECONOMIC ACTIVITIES.] In: (Protection of nature in the Komi ASSR.) (Syktyvkar). p. 80-86. 1961. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 3I285. Transl. of Russian abstr.] WR 116: 9

Yocom, Charles F. WILDLIFE ON THE YUKON. Pacific Discovery 17(6): 2-9, illus. Nov.-Dec. 1964. WR 116: 9

[Humboldt State Coll., Arcata, Calif.] A well-illustrated popular article on the enormous cost in fish and wildlife habitat and timber resources of the proposed Ramparts Canyon Dam in Alaska.

WILDLIFE--FOOD HABITS & TECHNIQUES

Dolbik, M. S. [SEMICONDUCTOR THERMORESISTORS IN EXPERIMENTS ON THE STUDY OF TEMPERATURE CONDITIONS IN THE HATCHING OF WILD BIRDS.] Voprosy Ekologii. Kiev Univ. (Kiev) 4: 102-103. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1962, no. 2I1151. Transl. of Russian abstr.] WR 116: 9

The author describes the device and gives examples of its use (in 2 hazel-hen nests). Some features of hazel-hen hatching are discussed.

Franzen, Robert W. CHECKING AGE AND SEX OF SMALL GAME. [N. Y.] Conservationist 19(2): 28-29, illus. Oct.-Nov. 1964. WR 116: 9

Instructions are given for aging and sexing cottontails, woodcocks, ruffed grouse, and ring-necked pheasants.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Avetisyan, O. R., and R. S. Shagoyan. [MICRODOSES OF FLUOROACETATES IN THE CONTROL OF RODENTS AND SPARROWS.] Zashchita Rastenii ot Vreditelei & Boleznei 6: 31-32. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 3I284. Transl. of Russian abstr.] WR 116: 9

Tests in the Idzhevan district in 1961 showed that it was possible to successfully combat rodents and sparrows with the help of baits containing small doses of fluoroacetate (0.5 g to 1 kg seed). For useful animals, such doses were not dangerous.

Blaser, E. ELEKTROSCHOCK GEGEN IM BODEN WÜHLENDE SCHÄDLINGE. [ELECTRIC SHOCK USED AGAINST BURROWING PESTS.] Anz. Schädlingskunde 34(6): 89-90, illus. 1961. [From Biol. Abstr. 45(2), 1964. In German.] WR 116: 9

Keener, J. M. BENEFITS OR BOUNTIES? Wis. Conserv. Bull. 29(5): 10-11, illus. Sept.-Oct. 1964. WR 116: 9

[Wis. Conserv. Dept., Madison.] A bill proposed to the State Legislature would provide cost-sharing funds for fish and game habitat improvement projects in the counties not authorizing bounty payments. A total of $360,000 would be distributed to the counties on a total area basis.

775-542 O - 65 - 2

Koksharskaya, L. B. [POISONOUS BAITS FOR CONTROL OF THE YAKUTIAN SUSLIK.] Zashchita Rast. ot Vreditelei & Bolezney 2: 51. 1959. [From Biol. Abstr. 45 (2), 1964, from Referat. Zhur., Biol., 1960, no. 2249. Transl. of Russian abstr.] WR 116: 10

After poison baits (150 g zinc phosphide per kg of oats in portions of about 8 g) were distributed over large areas at the suslik burrows, 85-98% of the susliks were destroyed in 5-10 days.

Kozlov, N. P. [EFFECT OF PREDATORY BIRDS ON THE ABUNDANCE OF SMALL RODENTS AT THEIR BREEDING GROUNDS IN THE STEPPES OF THE TSELIN REGION.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 34-36. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1962, no. 9I166. Transl. of Russian abstr.] WR 116: 10

Kryl'tsov, A. I. [DATA BASIC TO THE ORGANIZATION OF PROTECTIVE MEASURES FOR THE CONTROL OF LAGURUS LAGURUS IN NORTHERN KAZAKHSTAN.] Trudy Nauchn.-Issled. Inst. Zashchity Rast. Kazakhsk. Akad. Sel'skokhoz. Nauk 6: 256-273. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 24I294. Transl. of Russian abstr.] WR 116: 10

Marchenko, D. S. [PROTECTION OF FRUIT TREES FROM HARES AND MICE.] Sad & Ogorod 11: 56. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 58501. Transl. of Russian abstr.] WR 116: 10

It is recommended that trees be coated in fall with a solution of 100 liters of water containing 15 to 20 kg soap, 1 to 1.5 kg blue vitriol ($FeSO_4 \cdot 7H_2O$), 2 kg vegetable oil, 2 kg hexachlorcyclohexane, 10 kg quicklime, and 2 to 3 kg chalk (or kaolin).

Santa Maria, H. C. TOXICIDAD PARA LAGOSTOMUS MAXIMUS DE CEBOS A BASE DE 3-(ALPA ACETONIL BENCIL)4-HIDROXICUMARINA. [TOXICITY FOR LAGOSTUMUS MAXIMUS OF BAITS CONTAINING 3-(ALPHA ACETONYL BENCYL)4-HYDROXYCOUMARINE.] Agro (Buenos Aires) 2(4): 10-14. 1960. [From Biol. Abstr. 45(1), 1964. In Spanish.] WR 116: 10

[Fac. Agron., Univ. Nac. La Plata, La Plata, Argentina.]

Schreiber, A. UNTERSUCHUNGEN ÜBER DIE APPLIKATION VON WILDVERBISSSCHUTZ-MITTELN MIT DEM HUBSCHRAUBER. [A STUDY OF THE APPLICATION OF GAME REPELLENTS BY HELICOPTER.] Allgem. Forst. & Jagdzeit. 133(11): 259-267, illus. 1962. [From Biol. Abstr. 45(4), 1964. In German with English summ.] WR 116: 10

[Inst. Forstzool., Univ. Freiburg i. Br., Freiburg im Breisgau, W. Germany.]

Vigiani, A. R. EXPERIENCIAS REALIZADAS PARA EL CONTROL DE LA VIZCACHA MEDIANTE EL EMPLEO DE ELEMENTOS FUMIGENOS. [EXPERIMENTS FOR THE CONTROL OF THE RODENT LAGOSTUMUS MAXIMUS BY MEANS OF FUMIGATORY AGENTS.] Agro (Buenos Aires) 2(4): 19-41. 1960. [From Biol. Abstr. 45(1), 1964. In Spanish.] WR 116: 10

[Dept. Sanidad Vegetal, Min. Asuntos Agrarios, Buenos Aires, Argentina.]

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

Clement, Roland C., Walter W. Dykstra, and Daniel A. Poole. ANNUAL REPORT OF THE CONSERVATION COMMITTEE. Wilson Bull. 76(3): 306-312. Sept. 1964. WR 116: 10

[Natl. Audubon Soc., 1130 Fifth Ave., New York, N. Y.] This report of the Conservation Committee of the Wilson Ornithological Society reviews the chief happenings in the conservation field during the part of 1963-64 which passed since the last annual report. The following subjects are considered: land-use problems, habitat pollution, migratory bird hunting regulations, endangered species, and control of problem bird populations.

Eley Game Advisory Station. ANNUAL REPORT 1963/64. Eley Game Advisory Sta. (formerly ICI Game Serv.). 71 p., illus. [1964.] WR 116: 11
[Fordingbridge, Hampshire, England.] This annual report includes information on game abundance and hunting success and in addition contains short sections on the following topics: incubation and rearing of game birds, fowlpest in pheasants, treatment of gapes in pheasants and partridges, shelter-belt planning, protecting game habitats from wind, use of nesting baskets for mallards, reducing gamebird losses in hayfields, farm crops suitable for game food, feeding and watering wild pheasants, apprenticeship training for game breeders, pheasant prices, partridge clutch sizes, incubator sanitation, fruiting plants for wildlife food, wildlife damage to sugar beets, and predator control.

Indiana. A STATISTICAL ANNUAL REPORT OF THE 10 DIVISIONS COMPRISING THE INDIANA DEPARTMENT OF CONSERVATION. Outdoor Ind. 8(4): 1-48, illus. Oct. 1964. WR 116: 11
The activities of the Division of Fish and Game are briefly reported in statements on land acquisition, Korean pheasant stocking, turkey transplanting, deer harvest, farm game habitat improvement, and fish management. Public hunting and fishing areas are listed, and a summary is given by counties of license sales. A fiscal summary is also included.

Maryland. [ANNUAL REPORT, 1963.] Md. Conserv. 41(6): 1-21, illus. Nov.-Dec. 1964. WR 116: 11
In the section on game management (p. 1-6), the following topics are discussed: land acquisition; investigations on waterfowl, white-tailed deer, and mourning doves; habitat improvement; maintenance of boundaries and structures on public lands; game bird propagation; emergency winter feeding; and live trapping. The remainder of the report covers fish management, law enforcement, information and education, and accounting.

Nature Conservancy. REPORT OF THE NATURE CONSERVANCY FOR THE YEAR ENDED 30TH SEPTEMBER 1963. Her Majesty's Stationery Office (London). viii + 164 p. + 12 pls. & 1 map. 1963. Price 11 shillings, 6 pence. WR 116: 11
Major headings cover conservation, scientific research, grants, contracts, postgraduate awards, public inquiries, legislation, education, information, international and overseas activities.

Strandgaard, H. THE DANISH BAG RECORD I. STUDIES IN GAME GEOGRAPHY BASED ON THE DANISH BAG RECORD FOR THE YEARS 1956-57 AND 1957-58. Danish Rev. Game Biol. 4(2). 116 p., 41 figs., 4 pls., 1 map. 1964. WR 116: 11
The distribution and density of game species and hunters in Denmark are mapped, based upon 175,000 replies to hunter questionnaires.

Wright, Charles W. A LOOK AT YOUR HUNTING SUCCESS / AN ESTIMATE OF THE WILDLIFE HARVEST IN NEW JERSEY IN 1963-64. N. J. Outdoors 15(5): 4-15, illus. Nov. 1964. WR 116: 11
An annual report containing many figures and using more than usual statistical evaluations.

WETLANDS & WILDLIFE

Duffy, McFadden. TENSAS RIVER THREATENED! La. Conserv. 16(11&12): 2-8, illus. Nov.-Dec. 1964. WR 116: 11
"The Louisiana Wild Life and Fisheries Commission is taking a leading part in efforts to halt the ditching of the Tensas River [by the U. S. Corps of Engineers] under the guise of flood control. Sportsmen view with great apprehension the decrease in game and fish which will certainly result from widening, ditching and deepening the Tensas."

Harrington, Lyn. DO IT YOURSELF MARSH MANAGEMENT. Rod & Gun 66(1): 14, 16-17, illus. Sept. 1964. WR 116: 12
This popular article represents a fairly unbiased viewing of the different perspectives in waterfowl production. Hunters are urged to acquaint themselves with the facts and to avoid weakening their position by supporting false concepts. Some of the findings of waterfowl research are given.

Jensen, Albert C. WILDLIFE ECOLOGY OF A HEAVILY-USED AQUATIC AREA. N. Y. Fish & Game J. 11(2): 132-147, 6 figs. July 1964. WR 116: 12
[U. S. Fish & Wildl. Serv., Woods Hole, Mass.] Heavy recreational use of the area appeared to have little effect on the vertebrate population.

FARMLAND & WILDLIFE

[Farm Game Working Group.] STATUS OF FARM GAME IN WISCONSIN. Wis. Conserv. Bull. 29(5): 21-23, illus. Sept.-Oct. 1964. WR 116: 12
This is a summary of a report of the Wis. Nat. Resources Com. of State Agencies' Farm Game Working Group, established in 1961. The ring-necked pheasant was the chief burden of this report, "because of its high economic and recreational value and its present precarious status." Following are some suggested programs of action: continue state acquisition of land and development of habitat, increase technical assistance to landowners, promote land retirement programs, develop programs with economic incentive for game management on private land, and better coordinate efforts of state and federal agencies in land-use programs.

FORESTLAND--FORESTRY & ECOLOGY

Brown, Thomas E. COMPATIBILITY OF DEER AND GROUSE. N. Y. Fish & Game J. 11(2): 154. July 1964. WR 116: 12
Play relationships between a white-tailed deer fawn and a ruffed grouse.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Massey, C. L. CONTRIBUTION À L'ÉTUDE DES PROBLÈMES DU GIBIER ET DE LA CHASSE EN RELATION AVEC LA CULTURE ET LA PROTECTION DES FORÊTS. [GAME AND HUNTING PROBLEMS IN RELATION TO THE CULTIVATION AND PRESERVATION OF FORESTS.] Schweiz. Z. Forst. 114(1/2): 39-42. 1963. [From Biol. Abstr. 45(2), 1964. In French.] WR 116: 12

Thalenhorst, W. DEUTSCHE FORSTSCHUTZ-LITERATUR 1958. I. WILDSCHÄDEN. [GERMAN LITERATURE ON FOREST PROTECTION. I. DAMAGE BY GAME.] Z. Pflanzenkrankheiten 67(4): 219-221. 1960. [From Biol. Abstr. 45(2), 1964. In German.] WR 116: 12
See WR 109: 3 and WR 113: 14 for other literature review papers on forest protection by Thalenhorst.

MAMMALS--GENERAL

Graham-Jones, Oliver. RESTRAINT AND ANAESTHESIA OF SOME CAPTIVE WILD MAMMALS. Vet. Record 76(44): 1216-1248, 26 figs. Oct. 1964. WR 116: 12
[Zool. Soc. London, Regent's Park, London, England.] Methods of restraint and anesthesia of various captive wild mammals are discussed. Restraint methods reported include manual restraint for small mammals, pig and ring nets, trap and restraint boxes for medium and large mammals, and the anesthetic box for all sizes of mammals. The tranquilizing drugs phencyclidine hydrochloride and promazine hydrochloride, the paralytic drugs nicotine sulphate,

succinylcholine chloride and gallamine triethiodide, and their utility for restraint purposes are reported. Non-volatile, volatile, and gas anesthetics, methods and routes of administration to various mammals are discussed. A substantial reference section and appropriate photographs are included.--James M. Peek.

Mech, Dave. RETURN OF NORTHWOODS PHANTOM. Mass. Audubon 49(2): 76-80, illus. Winter 1964. WR 116: 13
[4643 Sixth St., N.E., Minneapolis, Minn.] A good popular article on the recent increase in fisher (Martes pennanti) populations in certain parts of their range and on management of fishers for control of porcupines (Erethizon dorsatum).

Semenov, N. M., A. V. Agafonov, D. S. Resinko, and A. A. Rozhkov. [EFFECT OF SEVERE WINTER CONDITIONS (1955-1956) ON SOME MAMMALS IN THE PRISARPINSK STEPPES.] Zool. Zhur. 37(8). 1223-1227. 1958. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1959, no. 30589. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 13

Shaposhnikov, L. V. [ACCLIMATIZATION AND NEW FORMS OF MAMMALS.] Zool. Zhur. 37(9): 1281-1290. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 58458. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 13

Timofeev, V. V. [EFFECT OF SABLES ON THE SQUIRREL POPULATION IN EASTERN SIBERIA.] Trudy Vses. Nauchn.-Issled. Inst. Zhivotnogo Syr'ya & Pushniny 19: 164-180. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 8I201. Transl. of Russian abstr.] WR 116: 13

MAMMALS--FAUNAS AND MANUALS

Beck, Harvey. RECORDS OF MAMMALS IN THE LAKE ATHABASCA AREA, SASKATCHEWAN. Blue Jay 22(4): 165-172, illus. Dec. 1964. WR 116: 13
[Regina, Saskatchewan, Canada.] Based on collecting trips made in 1960 and 1961.

Halloran, Arthur F. THE MAMMALS OF NAVAJOLAND. Navajoland Publ. (Navajo Tribal Museum, Window Rock, Ariz.) Ser. 4. 23 p., illus. June 1964. 25¢. WR 116: 13
In this popular booklet 75 mammals are considered as being or having been present on the Navajo Indian Reservation. Annotations are included on population status of the various species, taxonomy, Navajo-mammal relationships, and Navajo names for the various mammals.

Hoffmeister, Donald F., and Iyad Nader. DISTRIBUTIONAL NOTES ON ARIZONA MAMMALS. Trans. Ill. State Acad. Sci. 56(2): 92-93. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 13
[Museum Nat. Hist., Univ. Ill., Urbana.]

Jones, J. Knox, Jr. DISTRIBUTION AND TAXONOMY OF MAMMALS OF NEBRASKA. Univ. Kans. Publ. Museum Nat. Hist. 16(1): 1-356, 82 figs., 4 pls. Oct. 1964. Available from Museum Nat. Hist., Univ. Kans., Lawrence. WR 116: 13
With lists of the 109 spp. and races of mammals reported for Nebr. Included for most forms is a synonymy, an outline of distribution, body weights, measurements, and records of occurrence in Nebr.

Kaletskaya, M. L. [THE ROLE OF THE CONDITION OF THE RYBINSK RESERVOIR IN THE LIFE OF MAMMALS OF THE DARWIN RESERVATION.] Trudy Darvinsk. Gos. Zapovednika 4: 7-78. 1957. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 30587. Transl. of Russian abstr.] WR 116: 13

Royal Scottish Museum. MAMMALS IN SCOTLAND. Her Majesty's Stationery Office (Edinburgh). 36 p., 22 pls. 1964. Available from Sales Sec., British Inf. Serv., 845 Third Ave., New York, N. Y. Paper, $1.00. WR 116: 14

A collection of black and white photographs (presumably of mounted animal groups in the Royal Scottish Museum), a history of the mammals of Scotland, and a checklist of these forms.

SHREWS, MOLES, BATS

Aellen, V. LE BAGUEMENT DES CHAUVES-SOURIS AU COL DE BRETOLET (VALAIS). [THE BANDING OF BATS IN THE BRETOLET PASS, VALAIS CANTON, SWITZERLAND.] Arch. Sci. (Geneva) 14(3): 365-392, illus. 1961. [From Biol. Abstr. 45(1), 1964. In French.] WR 116: 14

[Museum Hist. Nat., Geneva, Switzerland.] Bats belonging to the genera of Plecotus, Barbastella, Vespertilio, Nyctalus, Pipistrellus, Eptesicus, Myotis, and Tadarida were netted, banded, released, and recaptured. Observations concerning their migrations, and the influence of dates and times on the frequencies of the occurrence of the spp. are made.--L. E. Walker.

Constantine, Denny G., and Dora F. Woodall. LATENT INFECTION OF RIO BRAVO VIRUS IN SALIVARY GLANDS OF BATS. Public Health Repts. 79(12): 1033-1039. Dec. 1964. WR 116: 14

[Public Health Serv., University Park, N. Mex.] Rio Bravo virus infection rates in 1,075 adult Mexican free-tailed bats and 100 cave myotis bats examined in this study varied from none, where the bats regularly inhabited ventilated roosts, to 3.4%, where they regularly inhabited extremely ill-ventilated roosts. Mixed groups of adult migrants had infection rates as high as 7%.--From summ.

Egsbaek, W., and Birger Jensen. RESULTS OF BAT BANDING IN DENMARK. Videnskab. Medd. 125: 269-296, illus. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 14

[Zool. Mus., Copenhagen, Denmark.] Based on records of 3828 hibernating bats banded during 1955-1961 at 4 localities in Denmark.

Eisenberg, John F. STUDIES ON THE BEHAVIOR OF SOREX VAGRANS. Am. Midland Nat. 72(2): 417-425. Oct. 1964. WR 116: 14

[Univ. Md., College Park.] Contains observations on agonistic behavior of 21 confined wandering shrews.

Harrison, D. L. SOME OBSERVATIONS ON THE WHITE-TOOTHED SHREWS (GENUS CROCIDURA WAGLER, 1832) OF ISRAEL. Bull. Res. Counc. Israel Sect. B Zool. 11B (4): 177-182, illus. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 14

[Bowerwood House, Sevenoaks, Kent, England.] A summary is given of the present knowledge on the shrews of Israel.--From abstr.

Kameneva, S. P., and K. K. Panyutin. [THE MIGRATIONS OF SOME BAT SPECIES.] Okhrana Prirody & Ozelenenie (Moscow) 3: 117-119. 1960. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 6I265. Transl. of Russian abstr.] WR 116: 14

Kuznetsov, N. I., and V. I. Kozlov. [HIBERNATION OF BATS IN THE CENTRAL URALS.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 63(4): 131-132. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 88921. Transl. of Russian abstr.] WR 116: 14

Lavrov, L. S. [THE BATS, FRIENDS OF THE FOREST.] Lesnoe Khoz. 7: 45-46. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 49512. Transl. of Russian abstr.] WR 116: 14

Use of nest boxes for bats.

Maxwell, Jack H. THE SHREW. W. Va. Conserv. 28(7): 16-21, illus. Sept. 1964. WR 116: 15
A popular article on shrews, chiefly the short-tailed shrew (Blarina brevicauda).

Menaker, Michael. FREQUENCY OF SPONTANEOUS AROUSAL FROM HIBERNATION IN BATS. Nature 203(4944): 540-541, 1 fig. Aug. 1964. WR 116: 15
[Univ. Texas, Austin.] Bats appear to have longer periods of continuous hibernation than rodents.

Mumford, Russell E., and James B. Cope. DISTRIBUTION AND STATUS OF THE CHIROPTERA OF INDIANA. Am. Midland Nat. 72(2): 473-489, 14 figs. Oct. 1964. WR 116: 15
[Purdue Univ., Lafayette, Ind.] Abstract: The following species are recorded for the State: Myotis lucifugus, M. austroriparius, M. grisescens, M. keenii, M. sodalis, Lasionycteris noctivagans, Pipistrellus subflavus, Eptesicus fuscus, Lasiurus borealis, L. cinereus, Nycticeius humeralis, Plecotus rafinesquii. Of these, Myotis austroriparius, M. grisescens, and Plecotus rafinesquii are rare and occur locally. Data on known breeding colony locations are mapped by counties. A key to adult bats is included.

Sluiter, J. W., and P. F. van Heerdt. ZOMERWAARNEMINGEN VAN DE WATERVLEERMUIS (MYOTIS DAUBENTONII) IN DE OMGEVING VAN UTRECHT. [SUMMER OBSERVATIONS OF THE BAT MYOTIS DAUBENTONII IN THE VICINITY OF THE CITY OF UTRECHT, NETHERLANDS.] Levende Nat. 64(10): 237-238. 1961. [From Biol. Abstr. 45(1), 1964. In Dutch.] WR 116: 15
[Zool. Lab., Univ. Utrecht, Utrecht, Netherlands.]

Strelkov, P. P. [DATA ON THE HIBERNATION SITES OF BATS IN THE EUROPEAN PART OF THE USSR.] Trudy Zool. Inst. Akad. Nauk SSSR 25: 255-303. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 25790. Transl. of Russian abstr.] WR 116: 15

Valdivieso, Darío. LA FAUNA QUIRÓPTERA DEL DEPARTAMENTO DE CUNDINAMARCA, COLOMBIA. [THE BAT FAUNA OF THE DEPARTMENT OF CUNDINAMARCA, COLOMBIA.] Rev. Biol. Trop. 12(1): 19-45. 1964. In Spanish with English summ. WR 116: 15
[Yale Univ., New Haven, Conn.] The present known bat fauna of the Department of Cundinamarca, Colombia, consists of 33 species representing the following five families: Emballonuridae, 3; Phyllostomidae, 17; Desmodontidae, 1; Vespertilionidae, 6; Molossidae, 6. Notes on distribution, variation, reproduction, food habits and infections are presented for most of the species.--From summ.

van Heerdt, P. F., and J. W. Sluiter. RESULTATEN VAN HET VLEERMUISONDERZOEK IN NEDERLAND IN 1960. [RESULTS OF INVESTIGATIONS ON BATS IN THE NETHERLANDS IN THE YEAR 1960.] Levende Nat. 64(7): 156-162. 1961. [From Biol. Abstr. 45 (1), 1964. In Dutch.] WR 116: 15
[Zool. Lab., Univ. Utrecht, Utrecht, Netherlands.]

Williams, M. C., D. I. H. Simpson, and R. C. Shepherd. BATS AND ARBOVIRUSES IN EAST AFRICA. Nature 203(4945): 670. Aug. 1964. WR 116: 15
[East African Virus Res. Inst., P.O. Box 49, Entebbe, Uganda, Africa.] Reported findings indicate that bats of several species are potentially of great importance in life cycle of arboviruses.

Yudin, B. S. [ECOLOGY OF THE SHREW (GENUS SOREX) OF WESTERN SIBERIA.] Trudy Biol. Inst. Sibirsk. Otd. Akad. Nauk SSSR 8: 33-134. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 31233. Transl. of Russian abstr.] WR 116: 15

RABBITS AND PIKAS

Adamovich, V. [TULAREMIAN EPIZOOTICS IN HARES.] Okhota & Okhotnich'e Khoz. 12: 29 ff. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 71890. Transl. of Russian abstr.] WR 116: 16

Casteel, David A., and William R. Edwards. TWO INSTANCES OF MULTIPAROUS JUVENILE COTTONTAILS. J. Wildl. Mgmt. 28(4): 858-859, 1 fig. Oct. 1964. WR 116: 16

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Two female cottontails (Sylvilagus floridanus) born in early April, 1963, produced litters in late July of that year and rebred following parturition. One doe was sacrificed for histological examination during her second pregnancy; the other spontaneously aborted her second litter at about 21 days.

Darwin, J. H., and R. M. Williams. THE EFFECT OF TIME OF HUNTING ON THE SIZE OF A RABBIT POPULATION. New Zealand J. Sci. 7(3): 341-352, 3 figs. Sept. 1964. WR 116: 16

[DSIR, Wellington, New Zealand.] Summary: In a general way it is often realised that some form of hunting rabbits kills different proportions of young and old rabbits, and perhaps that the difference in the proportions killed, or the total kill, varies with the time of year at which the hunting takes place. Intuitive feelings such as these are given quantitative form by a matrix analysis of the effect on the rate of increase of a rabbit population, using published data on the birth and death rates of New Zealand rabbits. Graphs show how this rate of increase may be used as a basis for a comparison of the degree of success of different hunting policies. It is pointed out that the matrix method may also be used when birth and death rates depend on the population size.

Demin, B. P. [A NOTE ON THE BIOLOGY OF THE MONGOLIAN PIKA.] Izvest. Irkutsk. Nauchn.-Issled. Protivochumnogo Inst. Sibiri i Dal'nego Vost. 24: 303-307. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1963, no. 10I233. Transl. of Russian abstr.] WR 116: 16

Edwards, William R. EVIDENCE FOR A NORMAL AGE COMPOSITION FOR COTTONTAILS. J. Wildl. Mgmt. 28(4): 738-742. Oct. 1964. WR 116: 16

[Ill. Nat. Hist. Surv., Urbana.] Abstract: The juvenile:adult age composition of statewide cottontail (Sylvilagus floridanus) populations in Ohio, Illinois, Wisconsin, Missouri, and Michigan showed similar characteristics of age structure which support Lotka's (1925) concept of the normal age distribution. Because of apparent similarities in the age composition of statewide populations, and because age ratios of cottontail populations on individual units of range differ significantly between years and areas, it is believed that (1) there is, in the midwest, a normal age structure for cottontails, and that (2) the age structure of the individual population varies about the normal, within limits, in response to factors in the physical environment. The normal or expected proportion of juvenile rabbits in fall populations in the midwest, with 95 percent confidence limits, is estimated as 0.834 ± 0.005. This statistic is suggested as a possible norm for evaluating age structures of experimental populations.

Ferris, D. H., R. D. Lord, and D. L. Huxsoll. SHOPE'S FIBROMA IN ILLINOIS COTTONTAILS. Trans. Ill. State Acad. Sci. 55(3/4): 230-238, illus. 1963. [From Biol. Abstr. 45(3), 1964.] WR 116: 16

[Univ. Ill., Urbana.] A total of 1,506 cottontails from cultivated fields was negative for Shope's fibroma while 0.72% of 1244 rabbits from a heavily wooded area were positive.

Likyavichene, N. [THE EUROPEAN HARE AS A PEST OF GARDENS AND ORCHARDS IN THE LITHUANIAN SSR.] In: (Collection of papers of the Scientific Conference on Plant Protection, 1960.) (Tartu.) p. 277-280. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I272. Transl. of Russian abstr.] WR 116: 16

Mason, R. R., and F. R. Davidson. PROTECTING PINE SEEDLINGS FROM RABBITS WITH POLYETHYLENE SLEEVES. J. Forestry 62(10): 751-752, 2 figs. Oct. 1964. WR 116: 17

[Hiwassee Land Co., Calhoun, Tenn.] Abstract: Rabbit damage to first-year planted loblolly pine seedlings was reduced significantly by protecting the trees with polyethylene sleeves. The seedlings were planted inside a perforated polyethylene sleeve which physically prevented rabbits from clipping the tree. A seedling top dip of endrin also reduced damage but was not as effective as the sleeves. When the protective sleeves were correctly positioned, the seedlings had no difficulty in growing out of the open end.

Vigiani, A. R. ENSAYOS CON SUSTANCIAS REPELENTES PARA LAS LIEBRES. [TRIALS OF REPELLENT SUBSTANCES AGAINST HARES.] Agro (Buenos Aires) 2(4): 15-18. 1960. [From Biol. Abstr. 45(1), 1964. In Spanish.] WR 116: 17

[Dept. Sanidad Vegetal, Min. Asuntos Agrarios, Buenos Aires, Argentina.]

Williams, R. M., J. H. Darwin, and K. Wodzicki. EFFECTIVENESS OF RABBIT AND HARE CONTROL BY NIGHT-SHOOTING. New Zealand J. Sci. 7(3): 367-386, 3 figs. Sept. 1964. WR 116: 17

[State Services Comm., Wellington, New Zealand.] It has been shown that: (i) there was little evidence that scaring of rabbits by shooting in one period resulted in a smaller proportion being shot in the next period; (ii) the proportion of rabbits killed was greater before midnight than after midnight; (iii) there is some indication that hares were scared more than rabbits and also that they emerged earlier in the night; and (iv) there was no significant variation in sex ratio and age distribution from period to period. The great economic importance of rabbit control in New Zealand is briefly discussed. To make this control more effective further work of the present kind in combination with population assessment is suggested.--From summ.

Woodfield, B. R. G., I. Nolan, and J. E. Wright. RABBIT CONTROL / LATEST METHODS APPLIED THROUGH REGIONAL CONTROL SCHEMES. Vermin & Noxious Weeds Destruction Board, Pamphlet no. 10. 9 p., illus. [1964]. WR 116: 17

Approximately a 98% kill of rabbits (Oryctolagus cuniculus) was obtained on 16,000,000 acres of land in northwestern Victoria, Australia, by distributing 1,000 tons of carrots treated with 1080 (sodium fluoroacetate). [Reprinted from J. Dept. Agr. (Victoria) 62(3), Mar. 1964.]

RODENTS--MISCELLANEOUS

Babaev, Kh. [SOME DATA ON THE DISTRIBUTION AND ECOLOGY OF THE PORCUPINE (HYSTRIX LEUCURA SATUNINI MÜLL.) IN SOUTHERN TURKMENIA.] Izvest. Akad. Nauk Turkmensk. SSR. Ser. Biol. Nauk 2: 83-87. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 11220. Transl. of Russian abstr.] WR 116: 17

Beishebaev, K. [REPRODUCTION OF THE TURKESTAN RAT.] Izvest. Akad. Nauk Kirgizsk. SSR Ser. Biol. 4(1): 27-39. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 7I295. Transl. of Russian abstr. Original (in Russian) with Kirgiz summ.] WR 116: 17

Bykovskii, V. A., and Yu. B. Pukinskii. [EXPERIMENTS ON THE APPLICATION OF TOXIC PETROLEUM DERIVATIVES TO HAUNTS OF THE MUSK RAT (ARVICOLA TERRESTRIS).] Byul. Vses. Nauchn.-Issled. Inst. Zashchity Rast. 5: 7-11. 1961. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 5I273. Transl. of Russian abstr.] WR 116: 17

775-542 O - 65 - 3

Davydov, G. S. [THE ECOLOGY OF THE TRANSCASPIAN FIELD MOUSE (MICROTUS TRANSCASPICUS SATUNIN, 1905) IN TADZHIKISTAN.] Trudy Inst. Zool. & Parazitol. Akad. Nauk Tadzhik SSR 22: 49-57. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 4I256. Transl. of Russian abstr. Original (in Russian) with Tadzhik summ.] WR 116: 18

Flint, V. E. [HABITAT STRUCTURE AND TYPES OF COMMUNITIES OF SOME MURINE RODENTS IN NORTH KAZAKHSTAN.] Bull. Moscow Obshch. Ispit. Prirody 63(6): 7-22. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1960, no. 2225. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 18

Forbes, Richard B. SOME ASPECTS OF THE LIFE HISTORY OF THE SILKY POCKET MOUSE, PEROGNATHUS FLAVUS. Am. Midland Nat. 72(2): 438-443, 4 figs. Oct. 1964. WR 116: 18

[Univ. Minn., Minneapolis.] Abstract: Silky pocket mice were examined to determine the relationship of age to size, pelage condition, sexual activity, and season. Mice were placed in juvenile, subadult or adult age classes depending on the condition of the upper fourth premolars. As the juvenile pelage of early summer-born mice is replaced by adult pelage, adult dentition is acquired and some young adult mice become pregnant. Late summer-born mice acquire adult pelage by winter, adult dentition during the winter, and become sexually active the following spring. Juveniles, young adults, adults, and old adults were present in largest proportions in summer, summer and winter, fall, and spring samples respectively. Juveniles were absent from winter samples. Pregnant mice, absent from fall and winter samples, were present in largest proportion in spring.

Glas, P. DE HAMSTER (CRICETUS CRICETUS) IN ZUID-LIMBURG. [THE COMMON HAMSTER (CRICETUS CRICETUS) IN SOUTH LIMBURG, NETHERLANDS.] Levende Nat. 64 (4): 77-81, illus. 1961. [From Biol. Abstr. 45(1), 1964. In Dutch.] WR 116: 18

Goertz, John W. HABITATS OF THREE OREGON VOLES. Ecology 45(4): 846-848. Autumn 1964. WR 116: 18

[La. Polytechnic Inst., Ruston.] The Oregon vole (Microtus oregoni) is found in all coast range Douglas fir habitats but prefers grassy cut-over areas. The Townsend vole (M. townsendii) is most closely associated with both coast range and valley riparian habitats, especially where dense stands of sedge and grass occur. The gray-tailed vole (M. montanus) is found in all agricultural lands and is always a potential agricultural pest.

Goertz, John W. THE INFLUENCE OF HABITAT QUALITY UPON DENSITY OF COTTON RAT POPULATIONS. Ecol. Monographs 34(4): 359-381. Autumn 1964. WR 116: 18

[La. Polytech. Inst., Ruston.] Dense plant growth, whether provided by matted ground cover or higher growth, is a necessary feature of cotton rat (Sigmodon hispidus) habitat. When trapping results indicated cotton rat populations were low, animals were found only in habitat considered superior. When populations were high, animals were found in habitat considered marginal. When population density was low ♂♂ had larger home ranges than ♀♀, but ranges of the sexes were about the same when population density was high. A protracted cold spell coincided with a marked reduction in the population of cotton rats in the winter of 1959-1960. About 50% of the marked cotton rats disappeared by the second month and 98% by the sixth month.--From summ.

Il'enko, A. I., and E. V. Zybchaninova. [YEAR ROUND OBSERVATION OF LABELED CLETHRIONOMYS GLARIOLUS SHREB. AND APODEMUS SYLVATICUS L. NEAR MOSCOW.] Zool. Zhur. 42(4): 609-617, illus. 1963. [From Biol. Abstr. 45(2), 1964. In Russian with English summ.] WR 116: 18

[Inst. Biol. Phys., Acad. Sci. USSR, Moscow, USSR.]

Jackson, William B. THE USE OF NEST BOXES FOR STUDYING NATIVE MICE. Turtox News 41(7): 162-164, illus. 1963. [From Biol. Abstr. 45(3), 1964.] WR 116: 19

[Bowling Green State Univ., Bowling Green, Ohio.] Wooden boxes of inside dimensions of 4 X 4 X 4.5 with side entrance hole and removable top and fastened to trees at waist height to study life history, movements, home range, longevity, etc.--R. W. Dexter.

Koshkina, T. V., and A. S. Khalanskii. [THE DENS AND SHELTERS OF NORWEGIAN LEMMINGS.] Bull. Moscow Obshch. Ispit. Prirody 68(1): 16-24. 1963. [From Biol. Abstr. 45(3), 1964. In Russian.] WR 116: 19

Krebs, Charles J. CYCLIC VARIATION IN SKULL-BODY REGRESSIONS OF LEMMINGS. Canadian J. Zool. 42(4): 631-643, 2 figs. July 1964. WR 116: 19

[Univ. British Columbia, Vancouver, Canada.] Abstract: A population cycle of brown and varying lemmings in the central Canadian arctic was accompanied by cyclic changes in the position of skull-body regressions. The regressions of log body weight and total length on condylobasal length, zygomatic breadth, and mastoid breadth showed highly significant changes in both slope and elevation, the shifts in elevation being more prominent. These changes appear in adult animals as well as in summer-born young. Whether these changes are phenotypic or genotypic is not known. They are not caused by seasonal changes in growth nor by changes in age structure of the population over the cycle. Nutritional effects cannot be ruled out but data available in the literature do not support a nutritional explanation. These changes could be genetic and involve a cyclic polymorphism.

Krebs, Charles J. THE LEMMING CYCLE AT BAKER LAKE, NORTHWEST TERRITORIES, DURING 1959-62. Arctic Inst. N. Am. Tech. Paper no. 15. 104 p., 10 figs. Sept. 1964. Price: to members of the Institute $1.00; to non-members $2.00. WR 116: 19

Report of a study covering one cycle in the population of brown lemmings (Lemmus trimucronatus) and varying lemmings (Dicrostonyx groenlandicus). A lengthened summer breeding season and winter breeding occurred during the period of increase; no winter breeding and a shortened summer breeding season occurred during the peak and decline periods. Juvenile mortality was very high in the summer of population decline. After examining the available evidence, the author concluded that, "it seems best to regard mass lemming migrations as a fiction and to confine our attention to the individual movements found sometimes at peak densities." It was also concluded that, "behavioural changes may constitute the crux of the cycle."

Kulik, I. L. [THE LIFE SPAN OF THE BIG GERBIL IN NATURAL CONDITIONS.] Zool. Zhur. 38(6): 944-947. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1960, no. 30599. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 19

In natural conditions, not less than 1% of the great gerbils reach the age of 2 years. The gerbil population renews itself completely in not less than 2-2.5 years.

Lange, B., and R. Sol. BEITRÄGE ZUR DICHTEBESTIMMUNG DER FELDMÄUSE (MICROTUS ARVALIS PALLAS) AUF GRÜNLAND MIT EINIGEN BBOBACHTUNGEN AUF GRUND DES FALLENGANG-MATERIALS. [POPULATION DENSITY OF MICROTUS ARVALIS PALLAS IN GREENLAND, TOGETHER WITH SOME OBSERVATIONS ON THE BASIS OF TRAPPINGS.] Anz. Schädlingskunde 34(7): 102-106, illus. 1961. [From Biol. Abstr. 45(2), 1964. In German.] WR 116: 19

[Pflanzenschutz., Oldenburg, West Germany.]

Lee, Anthony Kingston. THE ADAPTATIONS TO ARID ENVIRONMENTS IN WOOD RATS OF THE GENUS NEOTOMA. Univ. Calif. Publ. Zool. 64(2): 57-96. 1963. [From Biol. Abstr. 45(2), 1964.] WR 116: 19

Mazák, Vratislav. ZUR KENNTNIS DER POSTNATALEN ENTWICKLUNG DER RÖTELMAUS, CLETHRIONOMYS GLARBOLUS SCHREBER, 1780 (MAMMALIA, MICROTIDAE). [POSTNATAL DEVELOPMENT OF CLETHRIONOMYS GLARBOLUS SCHREBER, 1780 (MAMMALIA, MICROTIDAE).] Věst. Ceskoslov. Společnosti Zool. 26(1): 77-104, illus. 1962. [From Biol. Abstr. 45(8), 1964. In German with Czech summ.] WR 116: 20
[Dept. Syst. Zool., Karl Univ., Prague, Czechoslovakia.]

Menhusen, Bernadette R. AN INVESTIGATION ON THE FOOD HABITS OF FOUR SPECIES OF RODENTS IN CAPTIVITY. Trans. Kans. Acad. Sci. 66(1): 107-112. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 20
[Univ. Kans., Lawrence.] [Reithrodontomys megalotis, Peromyscus maniculatus, Microtus ochrogaster and Sigmodon hispidus.]

Ozburn, G. W., and F. O. Morrison. THE SELECTION OF A DDT-TOLERANT STRAIN OF MICE AND SOME CHARACTERISTICS OF THAT STRAIN. Canadian J. Zool. 42(4): 519-526. July 1964. WR 116: 20
[Northern Mich. Univ., Marquette, Mich.] Abstract: A colony of laboratory mice selected by intraperitoneal injection of DDT in sesame oil developed definite DDT-tolerance by generation 10. This tolerance was found to extend to the related chemicals lindane and dieldrin when administered by intraperitoneal injection. Fecundity, growth, and visual health were unimpaired.

Palomino, J. C., and L. Sanchez-Grosse. ALGUNAS CONSIDERACIONES SOBRE LOS TRATAMIENTOS CON AZUFRE EN EL CONTROL DE LA VIZCACHA. [SOME REMARKS ON SULFUR TREATMENTS IN THE CONTROL OF THE RODENT LAGOSTOMUS MAXIMUS.] Agro (Buenos Aires) 2(4): 42. 1960. [From Biol. Abstr. 45(1), 1964. In Spanish.] WR 116: 20
[Dept. Lucha Fitosanit., Min. Asuntos Agrarios, Buenos Aires, Argentina.]

Palomino-Cortez, J. C., and L. Sanchez-Grosse. NUEVO MÉTODO DE RELEVAMIENTO AÉRBO DE VIZCACHERAS. [NEW METHOD OF AERIAL SURVEY OF THE RODENT LAGOSTOMUS MAXIMUS' BURROWS.] Agro (Buenos Aires) 2(4): 1-9, map. 1960. [From Biol. Abstr. 45(1), 1964. In Spanish.] WR 116: 20
[Dept. Lucha Fitosanit., Min. Asuntos Agrarios, Buenos Aires, Argentina.]

Petrov, P. A., and A. A. Rozhkov. [AN EXPERIMENT IN STATIONARY OBSERVATION OF THE ACTIVITY OF SMALL MURINE RODENTS IN THE VOLGA-AKHTUBA BOTTOMLAND.] Zool. Zhur. 42(3): 434-440. 1963. [From Biol. Abstr. 45(2), 1964. In Russian with English summ.] WR 116: 20

Samusenko, E. G., and B. P. Savitskii. [THE PROBLEM OF MURINE RODENT MIGRATIONS IN NATURAL INFECTION FOCI OF BELORUSSIA.] Sb. Nauchn. Tr. Belorussk. Inst. Epidemiol. Mikrobiol. & Gig. 4: 102-109. 1961. [From Biol. Abstr. 45 (2), 1964, from Referat. Zhur., Biol., 1963, no. 11I241. Transl. of Russian abstr.] WR 116: 20

Sanderson, Glen C., and Beverley C. Sanderson. RADIO-TRACKING RATS IN MALAYA -- A PRELIMINARY STUDY. J. Wildl. Mgmt. 28(4): 752-768, 5 figs. Oct. 1964. WR 116: 20
[Ill. Nat. Hist. Surv., Urbana.] Abstract: Miniature, transistorized radio transmitters were successfully adapted for use on rats (Rattus spp.) in Malaya. Radio-tracked rats weighed from 106 to 365 grams each and the transmitters used weighed from 16 to 32 grams each. Ground-to-ground range of the transmitters varied from 50 to about 350 yards. During a 3-month period, nine wild rats were radio-tracked for periods of 1-16 days. Three species (R. müller i, R. sabanus, and R. jalorensis) were radio-tracked successfully. With some exceptions the rats returned to the same dens day after day. They were reluctant to expose themselves; when dens were in heavy ground cover, rats sometimes emerged from them during daylight but remained under cover until darkness. In the absence of heavy ground cover, they emerged just after the onset of darkness, and when the moon was bright they seldom crossed open areas. There was overlapping of home ranges of many rats, of the

same and of different species. Leptospirosis-positive and leptospirosis-negative rats had overlapping home ranges. We radio-tracked two leptospirosis-positive R. mülleri but could not isolate leptospires from soil samples collected in and near their dens. The standard diameters of home ranges, as determined by radio-tracking, were consistently smaller than the standard diameters found in the same general area by an earlier worker using livetrapping data.

Shcherbina, E. I. [THE STUDY OF REPRODUCTION IN THE AFGHAN VOLE (MICROTUS AFGHANUS AFGHANUS THOMAS) IN BADKHYZ.] Izvest. Akad. Nauk Turkmensk. SSR. Ser. Biol. Nauk 1: 69-73. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1962, no. 23I257. Transl. of Russian abstr.] WR 116: 21

Slinko, L. I. [CHANGES IN THE POPULATION OF MICROTUS SOCIALIS IN DRY REGIONS OF THE ROSTOV OBLAST.] Nauchnii raboty Rostovskogona-Donu protivochumnogo instituta, Dagestanskoi protivochumnoi stantsiya (Makhachkala). p. 320-330. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 15I307. Transl. of Russian abstr.] WR 116: 21

Smirnov, P. K. [DATA ON THE BIOLOGY OF REPRODUCTION OF HARVEST MICE (MICROMYS MINUTUS PALL.).] Nauchn. Dokl. Vysshei Shkoly. Biol. 1: 40-42. 1959. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1960, no. 15387. Transl. of Russian abstr.] WR 116: 21

Abstract: Maintenance and breeding of harvest mice in outdoor pens. The age of sexual maturation, duration of gestation, life span, size of litter, and feeding in captivity are discussed.

Stinson, Robert H. VOLE POPULATIONS IN SOUTHWESTERN ONTARIO. Canadian Field-Nat. 78(2): 98-107, 2 figs. Apr.-June 1964. WR 116: 21

[Univ. Western Ontario, London, Canada.] Snap-trapping and live-trapping techniques were used in estimates of vole (Microtus pennsylvanicus) populations on two plots. No consistent relationship was found between estimated population sizes and girdling damage to forest trees. Some comments are given on movements and reproductive biology of this species.

Vaughan, Terry A., and Richard M. Hansen. EXPERIMENTS ON INTERSPECIFIC COMPETITION BETWEEN TWO SPECIES OF POCKET GOPHERS. Am. Midland Nat. 72(2): 444-452, 1 fig. Oct. 1964. WR 116: 21

[Colo. State Univ., Fort Collins.] After the natural populations of pocket gophers were removed, the study areas were stocked with marked Thomomys bottae and T. talpoides which had been trapped elsewhere. About one year after stocking, all gophers were again trapped, and 28 of the original 188 were recaptured. Both species survived and reproduced, but in each test one species was more successful than the other, and the more successful was not always the same species. Differences in environmental tolerance and mobility of the animals were chiefly responsible for differences in success.

Vostrikov, L. A. [EXPERIMENTAL USE OF ZOOKUMARIN AGAINST RODENTS IN THE KHABA ROVSK KRAI.] Doklady Irkutsk. Protivochumnogo Inst. 3: 166-167. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 11I267. Transl. of Russian abstr.] WR 116: 21

The preparation was noted to be highly effective against R. norvegicus. Treated bait was used in a single application applied at a rate of 0.9 g of bait per m^2. Its use against Mus musculus and Apodemus agrarius failed to provide positive results.

Zubko, Ya. P. [DATA ON THE REPRODUCTION OF LAGURUS LAGURUS PALL. IN SOUTHERN UKRAINIA.] Uch. Zap. Khar'kovsk. Univ., Trudy Nauchn.-Issled. Inst. Biol. & Biol. Fak. 130(32): 117-122. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 15I303. Transl. of Russian abstr.] WR 116: 21

Zubko, Ya. P. [THE REPRODUCTION OF MICROTUS SOCIALIS RALL. IN SOUTHERN UKRAINIA.] Uch. Zap. Khar'kovsk. Univ., Trudy Nauchn.-Issled. Inst. Biol. & Biol. Fak. 130(32): 111-116. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 15I308. Transl. of Russian abstr.] WR 116: 22

RATTUS AND MUS

Abelyentsev, V. I. [EXPERIMENTS IN DEVELOPING CONTROL METHODS AGAINST RATS ON ANIMAL RAISING FARMS.] Pratsi Inst. Zool. Akad. Nauk Ukrain. RSR 16: 50-56. 1960. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1961, no. 6D438. Transl. of Russian abstr. Original (in Ukrainian) with Russian summ.] WR 116: 22

Belsan, Ladislav. BEDNOVA LEPENKA ODOLNA PROTI HLODAVCUM. [A CONTAINER BOARD RESISTANT TO RODENTS.] Obaly 8(4): 93-99, illus. 1962. [From Biol. Abstr. 45(3), 1964. In Czech with English summ.] WR 116: 22
[Obalovy ustav, Prague, Czechoslovakia.[Laboratory tests of rat repellents are described, in particular one obtained by the cultivation of soil fermented by the microorganism Streptomyces noursei.

Herman, G., and S. Hombrecher. RATTAN- UND MÄUSEBEKÄMPFUNG MIT RACUMIN 57- PRÄPARATEN. [CONTROL OF RATS AND MICE WITH RACUMIN 57 PRODUCTS.] Pflanzenschutz Nachrichten Bayer 15(2): 93-112, illus. 1962. [From Biol. Abstr. 45(4), 1964. In German.] WR 116: 22
Racumin 57 is 3(gamma-tetralyl)-4-hydroxycoumarin.

Rowe, F. P., E. J. Taylor, and A. H. J. Chudley. THE EFFECT OF CROWDING ON THE REPRODUCTION OF THE HOUSE-MOUSE (MUS MUSCULUS L.) LIVING IN CORN-RICKS. J. Animal Ecol. 33(3): 477-483. Oct. 1964. WR 116: 22
[Ministry Agr., Fisheries & Food, Hook Rise South, Tolworth, Surbiton, Surrey, England.] Lowered fecundity, reduced litter size, embryonic resorption, and increased outward movement were tending to regulate population density among house mice in four ricks built in Aug. and threshed the following May.

Tigner, James R., and Walter A. Bowles. CHLOROPICRIN TESTED AS AN AREA REPELLENT FOR HOUSE MICE. J. Wildl. Mgmt. 28(4): 748-751. Oct. 1964. WR 116: 22
[U. S. Bur. Sport Fisheries & Wildl., Denver, Colo.] Abstract: Chloropicrin was evaluated as an area repellent for house mice (Mus musculus). Two granaries--one for treatment and one for control--were modified into testing chambers by equipping a connecting runway with photoelectric cells and tally-counters which recorded animal activity. Four approximate concentrations of chloropicrin, determined by holes punched in the container, were evaluated, and activity was reduced 23-83 percent in the treated granaries. We concluded that the biological activity of chloropicrin is both repellent and toxic, and that chloropicrin will remove house mice from confined spaces if correct concentrations are chosen.

Trojanowski, H., and A. Lakocy. BADANIA LABORATORYJNE NAD SKUTECZNOSCIA DZIAŁANIA TERPENTOLU PRODUKCJI "ROKITA" NA GRYZONIE POLNE. [LABORATORY TESTING OF TERPENTOL EFFECTIVENESS PRODUCED BY "ROKITA" ON FIELD RODENTS.] Biul. Inst. Ochrony Roslin 19: 131-137, illus. 1963. [From Biol. Abstr. 45(8), 1964. In Polish with English & Russian summ.] WR 116: 22
Activated Terpentol caused 80% mortality in 3 weeks compared with 60% for Toxaphen. Terpentol E-60 was least efficient.--Authors.

SCIURIDS

Abadiev, I. A. [POISONED BAITS FOR THE CONTROL OF THE RED-CHEEKED MARMOT.] Sb. Rabot. Inst. Priklad. Zool. & Fitopatol. 5: 266-268. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 40038. Transl. of Russian abstr.] WR 116: 23

Bailey, Wayne. A RESEARCH BIOLOGIST TAKES A PENETRATING LOOK AT THE OLD QUESTION -- "WHY CAN'T WE HUNT SQUIRRELS IN SEPTEMBER?" W. Va. Conserv. Bull. 28(8): 8-15, illus. Oct. 1964. WR 116: 23

[413 Ninth St., Marlinton, W. Va.] The advantages and disadvantages of the squirrel season opening at different times during Aug.-Oct. are discussed, and it is concluded that the season in W. Va. should open in or after the third week of Oct.

Belyk, V. I. [PROBLEMS OF MOLTING IN THE YAKUT SQUIRREL.] Trudy Vses. Nauchn.-Issled. Inst. Zhivotnogo Syr'ya & Pushniny 19: 181-186. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 9I224. Transl. of Russian abstr.] WR 116: 23

Bibikov, D. I. [THE EFFECT OF SNOW COVER ON THE LIFE OF MARMOTS IN THE TIEN SHAN MOUNTAINS.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 63(5): 141-142. 1958. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1959, no. 54059. In Russian.] WR 116: 23

Bronson, F. H. AGONISTIC BEHAVIOUR IN WOODCHUCKS. Animal Behaviour 12(4): 470-478, 3 figs. Oct. 1964. WR 116: 23

[The Jackson Lab., Bar Harbor, Maine.] Most animals lived alone after the breeding season and established dominance-subordination relationships with animals on overlapping ranges. Agonistic behavior in the field was characterized chiefly by subordinate animals avoiding their dominant neighbors. The average aggressive interaction rate was about one per animal per day. Aggressive interactions were most frequent during May-June, with frequency thereafter declining until entrance into hibernation.--From summ.

Dobroruka, Ludek J. NĚKTERÉ ANATOMICKÉ ROZDÍLY NA KONČETINÁCH VEVERKY (SCIURUS VULGARIS L.) A SYSLA (CITELLUS CITELLUS L.), ZPUSOBENÉ VLIVEM ROZDÍLNÝCH ŽIVOTNÍCH PODMÍNEK. [SOME ANATOMICAL DIFFERENCES BETWEEN SCIURUS VULGARIS L. AND CITELLUS CITELLUS L., DUE TO DIFFERENCES IN THEIR WAY OF LIFE.] Vestnik Československé Společnosti Zool. 24(2): 97-104, illus. 1960. [From Biol. Abstr. 45(1), 1964. In Czech with German summ.] WR 116: 23

[Zool. Zahrada, Prague, Czechoslovakia.] Differences in gait are shown to be correlated with differences in the formation of the femur and humerus, particularly the caput, and in carpal and metacarpal bones and the form of the talus.--A. K. Winner.

Franklin, Jerry F. DOUGLAS' SQUIRREL CUT PACIFIC SILVER FIR CONES IN THE WASHINGTON CASCADES. US Forest Serv. Res. Note PNW-15. 3 p., 1 fig. Sept. 1964. WR 116: 23

This cutting directly affects both present and future seed crops.

Gladkina, T. S., O. A. Ivanov, N. V. Ipat'eva, T. M. Mokeeva, and N. Yu. Chentsova. [GROUND SQUIRRELS.] In: (The occurrence of pests and diseases of agricultural crops in the USSR and prognosis of their appearance in 1961.) (Leningrad). p. 20-27. 1961. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1962, no. 24I287. Transl. of Russian abstr.] WR 116: 23

Gruzdev, V. V. [ZONES OF MARMOT DAMAGE IN THE EUROPEAN SECTION OF THE USSR AND WESTERN KAZAKHSTAN.] Nauchn. Dokl. Vysshei Shkoly. Biol. Nauki 3: 39-44. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 8I233. Transl. of Russian abstr.] WR 116: 23

Kuznetsov, V. [INCREASING THE POPULATION OF SQUIRRELS IN THE FORESTS OF THE URALS.] Okhota & Okhotnich'e Khoz. 9: 5. 1958. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1959, no. 35285. Transl. of Russian abstr.] WR 116: 24

McKeever, Sturgis. THE BIOLOGY OF THE GOLDEN-MANTLED GROUND SQUIRREL, CITELLUS LATERALIS. Ecol. Monographs 34(4): 383-401, 14 figs. Autumn 1964. WR 116: 24
[Univ. Calif., Davis.] The following are discussed: seasonal activity, food habits, population density, reproduction, development of young, arousal from hibernation, seasonal changes of body weight, pituitary gland, adrenal gland, thyroid gland, submaxillary gland, digestive system, and liver glycogen storage.

Pengelley, E. T. RESPONSES OF A NEW HIBERNATOR (CITELLUS VARIEGATUS) TO CONTROLLED ENVIRONMENTS. Nature 203(4947): 892. Aug. 1964. WR 116: 24
[Univ. Calif., Riverside.] "The experimental results indicate that in C. variegatus the stimulus for entrance into hibernation is lack of available food, that aestivation does not occur spontaneously or in response to lack of water, and that while the animal is able successfully to lower its body temperature and raise it against the gradient, it does not in fact permit it to fall below 8° C. Thus, its behaviour is quite different from other species within the genus."

Ryabov, V. P., and N. N. Bolyshev. [PRESENT-DAY ABUNDANCE OF STEPPE MARMOTS IN CERTAIN DISTRICTS OF VIRGIN SOIL REGIONS.] Zool. Zhur. 42(4): 602-608, illus. 1963. [From Biol. Abstr. 45(1), 1964. In Russian with English summ.] WR 116: 24
[Moscow State Univ., Moscow, USSR.]

Sokolov, V. E., and E. A. Naumova. [BIOLOGY OF SPERMOPHILOPSIS LEPTODACTYLUS.] Izvest. Akad. Nauk Turkmensk. SSR, Ser. Biol. Nauk 2: 87-89. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1962, no. 23I237. Transl. of Russian abstr.] WR 116: 24

Stroganova, A. S. [THE ECOLOGY OF THE CAUCASIAN SQUIRREL SCIURUS (TENES) ANOMALUS GÜLD. 1792.] Trudy Zool. Inst. Akad. Nauk SSSR 25: 304-320. 1958. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1959, no. 30601. Transl. of Russian abstr.] WR 116: 24

Svidenko, G. D. [DATA ON THE ECOLOGY OF THE THINFINGERED SUSLIK (CITELLUS, SCIURIDAE) IN TURKMENIA.] Izvest. Akad. Nauk Turkmensk. SSR Ser. Biol. Nauk 2: 78-85, illus. 1963. [From Biol. Abstr. 45(2), 1964. In Russian.] WR 116: 24

Telegin, V. I. [FOOD INTERRELATIONSHIPS OF THE CHIPMUNK.] In: (Problems of interspecies relationships between organisms.] Tomskii Univ. (Tomsk). p. 71-72. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 7I286. Transl. of Russian abstr.] WR 116: 24

Tupikova, N. V., V. M. Neronov, and I. V. Luk'yanova. [HABITAT DISTRIBUTION AND RANGE OF THE LONG-TAILED SUSLIK IN THE ALTAI RANGE.] Izvest. Irkutsk. Nauchn.-Issled. Protivochumnogo Inst. Sibiri & Dal'nogo Vost. 24: 308-315. 1962. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 9I254. Transl. of Russian abstr.] WR 116: 24

Turček, František. BEITRAG ZUR ÖKOLOGIE DES ZIESELS (CITELLUS CITELLUS L.). II. [A CONTRIBUTION TO THE ECOLOGY OF CITELLUS CITELLUS L.] Biologia (Bratislava) 18(6): 419-432, illus. 1963. [From Biol. Abstr. 45(5), 1964. In German with Czech and Russian summ.] WR 116: 24

SCIURIDS--Continued

Varshavskii, S. N. [AGE TYPES OF SETTLEMENTS AND HISTORY OF SETTLEMENT OF THE SMALL MARMOT.] In: (Investigation of the geographical and natural resources of the animal and plant world.) Akad. Nauk SSSR (Moscow). p. 59-79. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 4I248. Transl. of Russian abstr.] WR 116: 25

BEAVER

Barabash-Nikiforov, I. I. [SYMBIOTIC RELATIONSHIPS IN BEAVER BURROWS.] Zool. Zhur. 38(5): 767-771. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1960, no. 14127. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 25

Brenner, Fred J. REPRODUCTION OF THE BEAVER IN CRAWFORD COUNTY, PENNSYLVANIA. J. Wildl. Mgmt. 28(4): 743-747, 1 fig. Oct. 1964. WR 116: 25
[Pa. State Univ., University Park.] Abstract: Data were collected on weight, pelt size, and the reproductive tracts of beavers (Castor canadensis) in Crawford County, Pennsylvania, during the trapping season. The age at which beavers attain sexual maturity appears to be 2 years. Embryos were found only in females classed as 2-year-olds and older. In a histological examination of the testes, spermatozoa were found only in 2-year-old or older males; these individuals also had an increase in sudanophilic activity, which indicated an increase in testosterone production over yearling animals. The number of embryos varied from one to nine with a mean of 5.50 per pregnant female. The potential litter size was 5.04 embryos per female of those that were pregnant or had been pregnant before complete or partial resorption occurred. Resorption occurred in 16.7 percent of the pregnant females examined. These resorptions reduced the potential population of young by 6.9 percent. All resorptions occurred in 2-year-old females which had bred for the first time. The adult females produced larger potential litters than did the 2-year-old animals. The breeding season in Crawford County extended from the last of January through February, as calculated from the age of the embryos examined during the trapping season and the occurrence of scent mounds.

McNeel, Wakelin, Jr. BEAVER CUTTINGS IN ASPEN INDIRECTLY DETRIMENTAL TO WHITE PINE. J. Wildl. Mgmt. 28(4): 861-863, 2 figs. Oct. 1964. WR 116: 25
[Central Mich. Univ., Mt. Pleasant.] Abstract: Recent beaver (Castor canadensis) activity in a large-tooth aspen (Populus grandidentata) woodland had an indirect and undesirable influence on underplanted white pine (Pinus strobus). The pine plantings, made in 1955, had grown well in the partial shade and had been free from the white-pine weevil (Pissodes strobi), which had severely attacked white pine in an adjacent open-grown plantation. In the fall of 1962, beavers moved into the area, felling the aspen, and opening up the woodland. The ecological conditions created were ideal for the weevil, which appeared during 1963 and attacked 75 percent of the pine.

Miller, Donald Ray. COLORED PLASTIC EAR MARKERS FOR BEAVERS. J. Wildl. Mgmt. 28(4): 859-861, 1 fig. Oct. 1964. WR 116: 25
[Dept. Mines & Nat. Resources, Manitoba Wildl. Branch, The Pas.] Abstract: A new method of marking beavers (Castor canadensis) for individual identification is described. Color combinations and various styles of plastic markers can be employed to tag large numbers of beavers without duplication. The technique has been used successfully in Newfoundland and Manitoba where the markers have been carried by beavers for two full winters.

Price, Roy F. BEAVER CREATES PROBLEM FOR ALABAMA LANDOWNERS. Ala. Conserv. 34(5): 9-12, illus. Aug.-Sept. 1964. WR 116: 25
A realistic view of the beaver problem in Ala. It is concluded that the problem will likely remain until style creates more demand for beaver furs unless better control methods than those presently known are found.

775-542 O - 65 - 4

Samusenko, E. G. [NEW DATA ON THE DISTRIBUTION AND ECOLOGY OF BEAVER IN BELORUSSIA.] In: (Fauna and ecology of terrestrial vertebrates of Belorussia.) (Minsk.) p. 13-32. 1961. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1962, no. 15I262. Transl. of Russian abstr.] WR 116: 26

Zharkov, I. [WAYS OF UTILIZING BEAVER STOCKS.] Okhota & Okhotnich'e Khoz. 3: 12-14. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1962, no. 17I246. Transl. of Russian abstr.] WR 116: 26

Zharkov, I. V. [RESULTS OF THE TRANSPLANTATION OF RIVER BEAVERS FOR THE PURPOSE OF REPLENISHING THEIR STOCK AND ENLARGING THEIR DISTRIBUTION IN THE USSR. REPORT NO. 2. PRESENT ABUNDANCE, DISTRIBUTION AND POSSIBILITIES OF THE UTILIZATION OF BEAVERS IN THE RSFSR.] Trudy Voronezhsk. Gos. Zapovednika 12: 5-23. 1961. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1962, no. 17I245. Transl. of Russian abstr.] WR 116: 26

MUSKRAT AND NUTRIA

Friend, Milton, Gerald E. Cummings, and John S. Morse. EFFECT OF CHANGES IN WINTER WATER LEVELS ON MUSKRAT WEIGHTS AND HARVEST AT THE MONTEZUMA NATIONAL WILDLIFE REFUGE. N. Y. Fish & Game J. 11(2): 125-131, 2 figs. July 1964. WR 116: 26

[90 Porter St., Malden, Mass.] On areas where the water level had been lowered by drainage, subfreezing temperatures resulted in ice formation reaching the bottom as well as in freezing the feed beds, and heavy weight losses occurred. Lesser weight losses occurred on an area where normal water levels were maintained. Reflooding of the drained areas resulted in most of the lost weight being regained. Evidence of disease and parasitic infection was heaviest in muskrats from areas of low water. The possible control of muskrat populations in northern marsh areas through winter drainage is suggested.--From abstr.

Kladovshchikov, V. F. [NUTRIA REPRODUCTION.] Krolikovodstvo & Zverovodstvo 6(7): 33-35. 1963. [From Biol. Abstr. 45(3), 1964. In Russian.] WR 116: 26

Korsakov, G. K. [RESULTS AND PROBLEMS OF RESEARCH AND APPLIED PROJECTS RELATIVE TO MUSKRATS IN THE WOODED STEPPE OF WESTERN SIBERIA.] In: (Problems of zoological studies in Siberia.) Knigoizdat (Gorno-Altaisko). p. 134-136. 1962. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 19I198. Transl. of Russian abstr.] WR 116: 26

Kucheruk, V. V., P. A. Kartushin, and I. A. Shilov. [COMPARISON OF MUSKRAT EXTERMINATION BY POISONED GRAIN AND VEGETABLE BAIT.] In: (Problems of Epidemiology and Tularemia Prophylaxis.) (Medgiz.) p. 159-168. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 40290. Transl. of Russian abstr.] WR 116: 26

BEARS

Berezin, V. [BEAR IN THE NORTHERN KURILES.] Okhota & Okhotnich'e Khoz. 10: 25-26. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 6I275. Transl. of Russian abstr.] WR 116: 26

Bromlei, G. F. [THE HIMALAYAN BEAR (SELENARCTOS THIBETANUS USSURICUS HEUDE, 1901).] Zool. Zhur. 35(1): 111-129. 1956. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 54075. Transl. of Russian abstr.] WR 116: 26

BEARS--Continued

Gudritis, V. B. [THE BEARS URSUS ARCTOS L. IN EASTERN SIBERIA.] Zool. Zhur. 42(6): 960-961. 1963. [From Biol. Abstr. 45(8), 1964. In Russian with English summ.] WR 116: 27
[Irkutsk Agr. Inst., Irkutsk, USSR.]

Mundy, Keith R. D., and W. A. Fuller. AGE DETERMINATION IN THE GRIZZLY BEAR. J. Wildl. Mgmt. 28(4): 863-866, 2 figs. Oct. 1964. WR 116: 27
[British Columbia Fish & Game Branch, Prince George.] Abstract: The number of annuli in the cementum of the third lower molar of grizzly bears (Ursus spp.) seems to be one less than the age in years of the bear. Age (number of annuli plus one) is positively correlated with the zygomatic breadth of the cleaned skull (r = 0.923). The formula for the regression of age on zygomatic breadth is y = log 125 + 0.164 log x. To age live bears, it is necessary to determine empirically a factor for conversion from zygomatic width of the cleaned skull to that of a skull in the flesh.

Troyer, Willard A., and Richard J. Hensel. STRUCTURE AND DISTRIBUTION OF A KODIAK BEAR POPULATION. J. Wildl. Mgmt. 28(4): 769-772, 3 figs. Oct. 1964. WR 116: 27
[Kenai Natl. Moose Range, Kenai, Alaska.] Abstract: Population characteristics of the Kodiak bear (Ursus middendorffi) were investigated in the Karluk Lake drainage, a 96-square-mile area within the Kodiak National Wildlife Refuge. The drainage contained 160 bears, for a density of 1 bear per 0.6 square mile, although some areas attained concentrations of 10 bears per square mile. The mean litter size for cubs was 2.36 and 2.17 for yearlings. Age-class percentages were: cubs, 26; yearlings, 22; 2 years, 17; 3 years, 10; and bears 4 years old and over, 25 percent. The sex ratio was relatively even in the younger age-groups, but in adults, females constituted 78 percent. This was attributed to selective hunting for larger males.

RACCOON, RINGTAIL, COATI

Rukovskii, N. N. [CONTEMPORARY DISTRIBUTION OF THE RACCOON AND THE POSSIBILITIES OF ITS GREATER DISTRIBUTION.] Bull. Nauchn.-Tech. Inform. Vses. Nauchn.-Issled. Inst. Zhivotnogo Syr'ya & Pushniny 3: 43-46. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 76189. Transl. of Russian abstr.] WR 116: 27

MUSTELIDS

Aizin, B. M., and A. I. Ibraimov. [STRUCTURE OF HIBERNATING BURROWS OF THE GRAY MARMOT BADGER.] Izvest. Akad. Nauk Kirgiz SSR Ser. Biol. 4(1): 55-58. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 4I250. Transl. of Russian abstr. Original (in Russian) with Kirgiz summ.] WR 116: 27

Bibikov, D. I. [THE MIGRATION OF MARMOT BADGERS.] Migratsii zhivotnykh. Akad. Nauk SSSR (Moscow) 3: 62-86. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 18I227. Transl. of Russian abstr.] WR 116: 27

Gribova, Z. A. [FOOD OF PINE MARTEN IN THE VOLOGDA DISTRICT.] Trudy Vses. Nauchn.-Issled. Inst. Zhivotnogo Syr'ya & Pushniny 17: 70-79. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 76184. Transl. of Russian abstr.] WR 116: 27

Gryaznukhin, A. N. [RESULTS OF RELEASING VITIMSK SABLE IN THE SOUTHWESTERN REGION OF THE VERKHOYANSK MOUNTAIN RANGE.] Trudy Inst. Biol. Yakutsk. Filial Sibirsk. Otd. Akad. Nauk SSSR 4: 143-171. 1958. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1959, no. 71929. Transl. of Russian abstr.] WR 116: 27

Gusev, O. K. [DISTRIBUTION AND NUMBERS OF SABLE ON THE BARGUZIN RIDGE IN THE PAST AND PRESENT.] In: (Biological collection of the Eastern Siberian Section of the Geographic Society of the USSR, Antiplague Institute of Siberia and the Far East.) (Irkutsk.) p. 49-69. 1960 (1961). [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1963, no. 1I221. Transl. of Russian abstr.] WR 116: 28

Marakov, S. V. [POSSIBILITIES OF COMMERCIAL EXPLOITATION OF THE SEA-OTTER POPULATION.] Nauchno-technicheskaya informatsia. Vsesoyusnyi nauchno-issledovatel'nyi institut zhivotnogo syr'ya & pushniny 3(6): 55-59. 1961. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 5I200. Transl. of Russian abstr.] WR 116: 28

Petrov, O. V. [THE APPLICABILITY OF "BERGMAN'S RULE" IN THE STUDY OF INTRASPECIES VARIATION IN THE ERMINE.] Vest. Leningradsk. Univ. 9: 144-148. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 23I218. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 28

As a result of a study on more than 250 specimens from the collection of the Zoological Institute of the Academy of Sciences of the USSR, the applicability of Bergman's rule to the mechanisms of body size variability in this species is denied. It must rather be explained by the joint influence of external factors stemming from the environment.

Shibanov, S. [HUNTING OF THE ERMINE.] Okhota & Okhotnich'e Khoz. 2: 20-22. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 71933. In Russian.] WR 116: 28

Tavrovskii, V. A. [THE SABLE IN NORTHWEST YAKUTSIA AND METHODS FOR RESTORING TRADE IN IT.] Trudy Inst. Biol. Yakutsk. Filial Sibirsk. Otd. Akad. Nauk SSSR 4: 50-142. 1958. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1959, no. 54069. Transl. of Russian abstr.] WR 116: 28

Tavrovskii, V. A., D. U. Ivanov, and N. A. Kornilov. [FIRST RESULTS OF THE RE-ESTABLISHMENT OF THE MARTEN MARTES ZIBELLINA IN THE SOUTHERN AND EASTERN REGIONS OF YAKUTIA.] Trudy Inst. Biol. Yakutsk. Filial Sibirsk. Otd. Akad. Nauk SSSR 4: 3-49. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 49504. Transl. of Russian abstr.] WR 116: 28

Vershinin, A. A. [ROUTE-OF-MARCH QUANTITATIVE COUNT OF SABLE IN LARGE AREAS. (FROM AN EXPERIMENT COUNTING THE NUMBER OF SABLE IN KAMCHATKA).] Sbornik nauchno-teknicheskogo informatsii Vsesoyuznogo Nauchnogo-issledovatel'nogo instituta zhivotnykh syr'ya & pushniny 3(6): 59-64. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 4I195. Transl. of Russian abstr.] WR 116: 28

Zaleker, V. L. [CHANGES IN POPULATION SEX AND AGE STRUCTURES AND THE FECUNDITY OF SABLES.] Trudy Vses. Nauchn.-Issled. Inst. Zhivotnogo Syr'ya & Pushniny 19: 187-205. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 9I237. Transl. of Russian abstr.] WR 116: 28

DOGS, WOLVES, FOXES

Abashkin, S. A. [COMPARATIVE DATA ON WINTER FEEDING OF CARNIVORES (FOX, MUSTELINES) AND THE FEASIBILITY OF USING SUCH DATA AS INDICATORS OF THE ABUNDANCE OF ARVICOLA TERRESTRIS.] In: (Problems of zoological studies in Siberia.) Knigoizdat (Gorno-Altaisko). p. 7-9. 1962. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 19I182. Transl. of Russian abstr.] WR 116: 28

Gavrilenko, P. [EXTERMINATION OF WOLVES IN THE KAZAKHSTAN.] Okhota & Okhotnich'e Khoz. 11: 11-12. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 84570. Transl. of Russian abstr.] WR 116: 29

Kashin, A. [LARGE SCALE CONTROL OF WOLVES.] Okhota & Okhotnich'e Khoz. 6: 6-8. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 45474. In Russian.] WR 116: 29

Linhart, Samuel B. ACCEPTANCE BY WILD FOXES OF CERTAIN BAITS FOR ADMINISTERING ANTIFERTILITY AGENTS. N. Y. Fish & Game J. 11(2): 69-77, 3 figs. July 1964. WR 116: 29

[U. S. Fish & Wildl. Serv., Bldg. 45, Fed. Center, Denver, Colo.] Of eight types of baits compared, no one type was preferred. Foxes, dogs and crows, in that order, most frequently consumed baits. Other wild and domestic species took baits only occasionally. Bait acceptance by foxes was poor early in the winter but increased substantially as the winter progressed. To the extent these results are representative, the distribution of antifertility agents early in the winter would be of little value, and substances that would be effective only when eaten by foxes prior to mid-January would be of little use.--From abstr.

BIG GAME, GENERAL

Bannikov, A. [SAIGA (STEPPE ANTELOPE) AND THE BIOLOGICAL PRINCIPLES OF ITS COMMERCIAL HUNTING.] Okhota & Okhotnich'e Khoz. 12: 23-25. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 76196. Transl. of Russian abstr.] WR 116: 29

Bannikov, A. [WILD UNGULATES.] Okhota & Okhotnich'e Khoz. 6: 25-27. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 35342. Transl. of Russian abstr.] WR 116: 29

Brief general information (with a description of the external appearance and form of horns or antlers) on 22 spp. of wild ungulates from the USSR is given.

Bannikov, A. G., L. V. Zhirnov, L. S. Lebedeva, and A. A. Fandeev. [SAIGA ANTELOPES IN THE WEST CASPIAN REGION.] Migratsii zhivotnykh. Akad. Nauk SSSR (Moscow) 1: 179-185. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 61176. Transl. of Russian abstr.] WR 116: 29

Bergerud, Arthur T., and Lloyd Russell. EVALUATION OF RUMEN FOOD ANALYSIS FOR NEWFOUNDLAND CARIBOU. J. Wildl. Mgmt. 28(4): 809-814. Oct. 1964. WR 116: 29

[Dept. Mines, Agr. and Resources, St. John's, Newfoundland.] Abstract: A study of plant screenings from caribou rumens (Rangifer tarandus) revealed that the larger plant fragments were not representative of the entire rumen contents because of differential digestion between plant groups. This conclusion was reached after comparing the identified plant fragments obtained from coarse and medium mesh screenings (0.078- and 0.0328-inch opening) in five rumen samples collected during the hunting season and after studying the rumen contents of four captive animals fed known diets prior to being sacrificed.

Bigalke, R. DIE UITROEIING VAN DIE BREËLIP- OF WITRENOSTER (CERATOTHERIUM SIMUM SIMUM (BURCH.)) IN TRANSVAAL EN SY HERVESTIGING. 'N HISTORIESE EN KRITIESE OORSIG. [THE EXTERMINATION OF THE WHITE RHINOCERUS (CERATOTHERIUM SIMUM SIMUM (BURCH.)) IN TRANSVAAL AND ITS HARVEST. AN HISTORICAL AND CRITICAL REVIEW.] Fauna & Flora (Pretoria) 14: 5-14, [3 figs.]. 1963. In Afrikaans. WR 116: 29

Brudin, I. [INCREASE OF ANIMALS IN THE ORENBURG AREA.] Okhota & Okhotnich'e Khoz. 12: 16-17. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 88562. Transl. of Russian abstr.] WR 116: 30
Moose are numerous and the migration of roe deer from east to west continues. Wild boars and saiga antelopes (Saiga tartarica) have reappeared. It is imperative to preserve rookeries of the common heron and the hazel grouse.

Chernyavskii, F. [OVIS CANADENSIS.] Okhota & Okhotnich'e Khoz. 8: 24-27. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 4I262. Transl. of Russian abstr.] WR 116: 30

Child, Graham. GROWTH AND AGEING CRITERIA OF IMPALA, AEPYCEROS MELAMPUS. Occas. Papers Natl. Museums Southern Rhodesia 4(27B): 128-135, 4 figs. May 1964. WR 116: 30
[Natl. Museum, Bulawayo, Southern Rhodesia.] Summary: Based on 548 skulls and supplementary data, ageing criteria were described, which permit the age determination of impala from birth to about 24 months with an accuracy of plus or minus two months. Horns are useful as a less exact method of classifying males, and calves may be separated from yearlings and these from older animals, providing classification is done before yearlings reach about 22 months.

Child, Graham, and Thane Riney. ABNORMAL DENTITION IN THE COMMON DUIKER (SYLVICAPRA GRIMMIA), IMPALA (AEPYCEROS MELAMPUS) AND SHARP'S GRYSBUCK (RAPHICERUS SHARPEI). Occas. Papers Natl. Museums Southern Rhodesia 4(27B): 1-4. May 1964. WR 116: 30
[Natl. Museum, Bulawayo, Southern Rhodesia.] Eight of 2250 common duikers, one of 292 impala, and one of 121 Sharp's grysbucks examined were found with abnormal dentition.

Child, Graham, and Vivian Wilson. DELAYED EFFECTS OF TSETSE CONTROL HUNTING ON A DUIKER POPULATION. J. Wildl. Mgmt. 28(4): 866-868. Oct. 1964. WR 116: 30
[Natl. Museum, Bulawayo, Southern Rhodesia.] Abstract: Sixty-one duiker (Sylvicapra grimmia) were collected in October, 1963, in the Cewali area of the Binga district of Southern Rhodesia, to discover if the population increase, stimulated by a 12-year tsetse control hunting program which ended in 1960, had continued. Seventy-four percent (45 duiker) of the sample were juveniles under 22 months of age. Of the 26 females collected, all except 4 sexually immature animals were found to be pregnant, and there were indications that some duiker would breed twice a year. Continuing rapid population growth was confirmed.

Espmark, Yngve. STUDIES IN DOMINANCE-SUBORDINATION RELATIONSHIP IN A GROUP OF SEMI-DOMESTIC REINDEER (RANGIFER TARANDUS L.). Animal Behaviour 12(4): 420-426, 1 fig. Oct. 1964. WR 116: 30
[Univ. Stockholm, Stockholm, Sweden.] During the rutting season the mature bulls were at the top of the dominant list. Within each sex group, age seemed to be an important factor for the rank order, while size and strength were more important between the sex groups. During this time the mature cows were very aggressive to the young bulls. Antlers were cut from some animals of the highest status and a drop in the hierarchy after this change was observed.--From summ.

Gulyaeva, M. A. [THE EFFECT OF FLOODS ON THE LIFE ACTIVITIES OF CERVUS BACTRIANUS LYDEKKER AND NESOKIA INDICA GRAY IN THE TIGER VALLEY FOREST PRESERVE.] Trudy Inst. Zool. & Parazitol. Akad. Nauk Tadzhik SSR 22: 89-95. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 3I241. Transl. of Russian abstr. Original (in Russian) with Tadzhik summ.] WR 116: 30

Knorre, E. P. [RESULTS AND PROSPECTS FOR THE DOMESTICATION OF MOOSE.] Trudy Pechoro-Ilychsk. Gos. Zapovednika 9: 5-113. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 8I223. Transl. of Russian abstr.] WR 116: 31

The main advantage of moose as domestic animals is the possibility of keeping them the year round in the forest without the preparation of rough food. An approximate estimate is given of the content and use of a herd of domestic moose under conditions of a state farm or game farm. 44 references.

Kochetkov, N. I. [ESTABLISHING A STANDARD DENSITY OF MOOSE IN THE MOSCOW AREA.] Okhrana Prirody & Ozelenenie (Moscow) 3: 87-93. 1960. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I244. Transl. of Russian abstr.] WR 116: 31

Kozlovskii, A. A. [AERIAL CENSUSES OF MOOSE.] Sb. Rabot po Lesn. Khoz. Vses. Nauchn.-Issled. Inst. Lesovodstva & Mekhan. Lesn. Khoz. 45: 195-209. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 11I224. Transl. of Russian abstr.] WR 116: 31

Kurth, Alfred. WILDSCHADENERMITTLUNG IM KANTON SCHWYZ. [ASSESSMENT OF DEER DAMAGE IN SCHWYZ CANTON.] Schweiz. Z. Forstwesen 115(1/2): 1-12 + 2 pls. Jan.-Feb. 1964. In German with French summ. WR 116: 31

Kuster, A. AUFFORSTUNG UND REHWILDSCHADEN. [REFORESTATION AND DAMAGE BY ROE DEER.] Schweiz. Z. Forstw. 114(5/6): 332-336. 1963. [From Biol. Abstr. 45(5), 1964. In German with French summ.] WR 116: 31

Larsen, Parry A. SOME ANSWERS ABOUT ANTELOPE. N. Mex. Wildl. 9(5): 6-8, illus. Sept.-Oct. 1964. WR 116: 31

Production of antelope has been low in the past 5 years in southeastern N. Mex., with the kid crop amounting to only 27% of the harvest instead of the usual 50-100%. Studies in 1963 indicated normal production until the kids were about one week of age.

Lebedev, V. [THE MUSK OX.] Okhota & Okhotnich'e Khoz. 11: 27. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 88931. Transl. of Russian Abstr.] WR 116: 31

The acclimatization of the musk ox to the USSR is recommended.

Ledger, H. P., and N. S. Smith. THE CARCASS AND BODY COMPOSITION OF THE UGANDA KOB. J. Wildl. Mgmt. 28(4): 827-839, 1 fig. Oct. 1964. WR 116: 31

[East African Agr. & Forestry Res. Organization, Kikuyu, Kenya.] Abstract: Forty Uganda kob (Adenota kob), 10 mature and 10 immature of each sex, were slaughtered in November-December, 1962, and a carcass and body composition analysis of the components was made. Criterion of maturity was based on dentition development. There proved to be virtually no difference between the mean carcass yields (warm weight of carcass expressed as percentage of live-weight) of mature and immature males and little difference between means for mature and immature females. Mature females yielded only slightly better than mature males. Immature females had significantly higher hindquarter yield. Females were fatter than male counterparts, but all kob had a low level of carcass fatness (maximum 6.2 percent), associated with high carcass yields. Lean content of carcasses was high (80.7-82.8 percent), mature males having the highest percentage lean. Immature males had significantly higher bone content by 2.4 percent. Mature males had the highest proportion of external offal. There were only small differences in percent of viscera and in the large internal organs. Comparison of kob with boran slaughter steers indicated an overall difference of 1 percent of carcass yield index in favor of steers. Hindquarters in all but mature male kob formed higher proportions of carcasses than in steers, proportion of carcass edible products was nearly the same in steers and kob, ratio of fat to lean showed a higher proportion of lean in kob carcasses. The food value of kob per pound liveweight is superior in terms of animal protein and inferior in terms of calorific value to that of steers.

Lenz, O. LES DOMMAGES CAUSÉS AUX ARBRES PAR LE CERF. [THE INJURIES CAUSED TO TREES BY RED DEER.] Schweiz. Z. Forstwesen 115(1/2): 13-14. Jan.-Feb. 1964. In French with German summ. WR 116: 32

Maloiy, G. M. Ole. OBSERVATIONS ON FREE-RANGING OF THOMSON'S AND GRANT'S GAZELLES IN KENYA. E. African Agr. & Forestry J. 28(3): 151-160, illus., maps. 1963. [From Biol. Abstr. 45(5), 1964.] WR 116: 32
[Univ. British Columbia, Vancouver.]

Rashek, V. [WILD BOAR IN THE RIVER IL' REACHES.] Okhota & Okhotnich'e Khoz. 12: 20-21. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 71915. Transl. of Russian abstr.] WR 116: 32

Sablina, T. B. [ADAPTIVE PECULIARITIES OF CERTAIN SPECIES OF UNGULATES AND THE INFLUENCE OF THESE SPECIES ON CHANGES IN VEGETATION.] Soobshch. Inst. Lesa Akad. Nauk SSSR 13: 32-43. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1960, no. 61200. Transl. of Russian abstr.] WR 116: 32
Bison bonasus, Cervus elaphus, Pseudaxis, Alces alces, Capreolus capreolus, and Sus scrofa.

Sdobnikov, V. M. [WILD REINDEER OF THE TAIMYR AND REGULATION OF THEIR HUNTING.] Problemy Severa. Akad. Nauk SSSR (Moscow) 2: 156-168. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 71908. Transl. of Russian abstr.] WR 116: 32

Shmit, E. [MOOSE IN THE FIELDS.] Okhota & Okhotnich'e Khoz. 1: 62. 1959. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 88928. Transl. of Russian abstr.] WR 116: 32

Skalon, N. N. [THE DISTRIBUTION AND LIFE HABITS OF THE WILD UNGULATES IN THE OLEKMA BASIN.] In: (Biological collection of the Eastern Siberian Department of the Geographical Society of the USSR.) Protivochumnyi Inst. Sibiri & Dal'nogo Vost. (Irkutsk). p. 150-158. 1960 (1961). [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 2I251. Transl. of Russian abstr.] WR 116: 32

Talbot, Lee M., and D. R. M. Stewart. FIRST WILDLIFE CENSUS OF THE ENTIRE SERENGETI-MARA REGION, EAST AFRICA. J. Wildl. Mgmt. 28(4): 815-827, 6 figs. Oct. 1964. WR 116: 32
[Univ. Calif., Berkeley.] Abstract: The first aerial wildlife census of the entire 15,000-square-mile Serengeti-Mara region of East Africa was conducted between May 18 and 31, 1961. Careful counts were made of wildebeests (Gorgon taurinus) and zebras (Equus burchelli); final totals were 239,516 and 171,873, respectively. Less detailed counts or estimates were made of other species: buffaloes (Syncerus caffer), 21,832; elands (Taurotragus oryx), 6,400-9,600; elephants (Loxodonta africana), 1,157; hartebeests (Alcelaphus buselaphus), 2,100+; lions (Panthera leo), 550-700; black rhinoceroses (Diceros bicornis), 83+; topis (Damaliscus lunatus), 19,877; and Thomson's gazelles (Gazella thomsonii). 480,000-800,000. Slow, high-winged monoplanes were used, at elevations of 400-700 feet, flying 1- to 5-mile-long parallel strips, with the authors counting 150-400 yards on either side. Large herds were counted from color photographs. Maps of species distribution, topography, and vegetation are presented. The significance of the census results to research and management is discussed, and previous counts from parts of the area are reviewed. The census confirmed that a significant irregular interchange of zebras and wildebeests occurs between the Kenya and Tanganyika areas. The seasonal wildlife migration was shown to be an irregular dispersion over a vast area of animals apparently following available supplies of water and preferred food. Royal Air Force photographs of the major game concentrations provided a check on the accuracy of the census.

Yanushko, P. A. [DYNAMICS OF CRIMEA DEER POPULATION.] Zool. Zhur. 37(8): 1228-1235. 1958. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1956[?], no. 35253. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 33

Yazan, Yu. P. [COMMERCIAL MOOSE HUNTING ALONG FALL-WINTER MIGRATION ROUTES.] Trudy Pechoro-Ilychsk. Gos. Zapovednika 9: 202-216. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 11I257. Transl. of Russian abstr.] WR 116: 33

Yoakum, Jim, compiler. INTERSTATE ANTELOPE CONFERENCE / 1963 TRANSACTIONS. [ii] + 102 p., illus. Dec. 1963. Available on application to Interstate Antelope Conf., P. O. Box 1551, Reno, Nev. WR 116: 33

Annual reports: Antelope status report for the Sheldon-Hart Mountain National Antelope Refuges and Sheldon Antelope Range, Ben M. Hazeltine, John D. Hill, and Oscar V. Deming; California antelope report, 1963, Wallace G. Macgregor; Idaho antelope investigations--1963, Wesley M. Shaw; Nevada antelope studies, progress report, 1963, William W. Foree; and Oregon antelope report, 1963, Ira D. Lumen. Contributed papers: Impact on antelope and deer sagebrush ranges by the sagebrush defoliator--Aroga websteri, Ralph C. Hall; The impact of pesticides on wildlife resources, V. H. Freed; Antelope and sagebrush, O. V. Deming; Background of the Wyoming antelope fencing study, Rex S. ZoBell; The springbok Antidorcas marsupialis Zim, R. C. Bigalke; and A general history of the pronghorn antelope in California, Lewis H. Meyers.

DEER (Odocoileus)

Anderson, Donald D. THE STATUS OF DEER IN KANSAS. Univ. Kans., Museum Nat. Hist., Misc. Publ. no. 39. 36 p., 8 maps. Sept. 1964. WR 116: 33

"Although both mule deer (Odocoileus hemionus) and white-tailed deer (Odocoileus virginianus) occur in Kansas, it is the only state that has not had an open season within the past several years.... Kansas is the last of the Plains states to benefit from natural dispersal of deer from surrounding areas, and only recently have deer become re-established in the state." In 1962, there were approximately 12,000 deer in Kans., and the number is still increasing. Deer are healthy, and no evidence was found of deaths resulting from disease, parasites, or food shortage.

Anderson, Roy C. NEUROLOGIC DISEASE IN MOOSE INFECTED EXPERIMENTALLY WITH PNEUMOSTRONGYLUS TENUIS FROM WHITE-TAILED DEER. Pathologia Vet. 1(4): 289-322, 20 figs. 1964. With German summ. WR 116: 33

[Ontario Res. Foundation, 43 Queen's Park Crescent, Toronto, Canada.]

Summary: An experiment was undertaken to test the hypothesis that moose neurologic disease is cerebrospinal nematodiasis. Two moose calves (Alces a. americana) were infected with Pneumostrongylus tenuis derived from white-tailed deer (Odocoileus virginianus borealis). Two to three weeks later both calves became lethargic and seemed unwilling to rise. This weakness and ataxia became progressively more pronounced and terminated in paraplegia. One calf was autopsied on the 40th day, the other on the 60th day. Fifth-stage P. tenuis were found in saline in which the central nervous system of the first calf had been placed. Numerous subadult worms were found in subdural spaces of the cranium and vertebral column of the second moose. Histological study revealed additional worms and traumatic damage in the central canal and dorsal horns of the cord of both calves. Focal malacia with microcavitation was found in all regions of the cord. Infiltrations of round cells and eosinophils in the leptomeninges, the ventral fissure and the dorsal sulcus, perivascular cuffing with round cells, petechial haemorrhages, neuron degeneration and loss, as well as swelling and disappearance of axis cylinders and myelin sheaths were observed. The known distribution and characteristics of neurologic disease in wild moose supports the hypothesis that P. tenuis is the aetiological agent.

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Burgin, Bryan B. SECOND DEADLIEST DEERSLAYER -- THE AUTOMOBILE. [N.Y.] Conservationist 19(2): 2-3, illus. Oct.-Nov. 1964. WR 116: 34
[N.Y. Conserv. Dept., Albany.] Highway mortality of deer in N. Y. was calculated to be 17% and legal kill 46% of annual mortality.

Dalke, Paul D., and Richard C. Presby. MULE DEER WINTER RANGE STUDIES ON THE MIDDLE FORK OF THE SALMON RIVER. Idaho Wildl. Rev. 17(3): 3-4, illus. Nov.-Dec. 1964. WR 116: 34
[Univ. Idaho, Moscow.] A popular account based on exclosure studies of the effect of grazing on plant cover and soil movement.

Day, Benjamin W., Jr. THE WHITE-TAILED DEER IN VERMONT 1964. Vt. Fish & Game Dept. Wildl. Bull. 64-1. 24 p., illus. 1964. WR 116: 34
The population of deer in Vt. in the early summer of 1964 was estimated at 165,127. The population is considered to exceed the carrying capacity of the range, and the annual winter loss "is believed without reservation to occasionally, if not annually, surpass all other known annual mortality of incidental and legal origin." An antlerless season was tried in 1961-62, and a reduced buck harvest followed in 1963. "The actual cause of the lower kill was the rainfall that persisted throughout much of the 16 day season."

Krull, John N. DEER USE OF A COMMERCIAL CLEAR-CUT AREA. N.Y. Fish & Game J. 11(2): 115-118. July 1964. WR 116: 34
[Cornell Univ., Ithaca, N.Y.] In 1961-62, deer use was compared on two 1000-acre tracts of forest land in the central Adirondack region of N.Y. One area had been clear-cut during 1943-50; the other area was almost completely covered with old timber, similar to that on the first area before clear-cutting. During severe winter weather, deer moved into the uncut area, presumably for protection from the weather; before and after periods of severe winter weather, deer use was greater in the clear-cut area, presumably because food was more plentiful.

Longhurst, William M. EVALUATION OF THE EYE LENS TECHNIQUE FOR AGING COLUMBIAN BLACK-TAILED DEER. J. Wildl. Mgmt. 28(4): 773-784, 3 figs. Oct. 1964. WR 116: 34
[Univ. Calif., Davis.] Abstract: In order to evaluate the eye lens technique for aging Columbian black-tailed deer (Odocoileus hemionus columbianus), lenses from 83 known-age animals were fixed, desiccated, and weighed in a standardized manner. Several potential sources of error in the preparation and weighing of lenses were explored, including length of desiccating time, length of cooling period before weighing, removal of lenses from eyeballs before fixing, and freezing prior to fixing. The effects of freezing and removal of the lens before fixing were investigated on a series of domestic sheep (Ovis aries) eyes. Freezing had no significant effect, but it was determined that fresh lenses were easily damaged with consequent loss of weight. For statistical comparisons of the influence of sex, nutrition, body weight, and geographical variation, a mathematical expression of the lens weight-age relationship was necessary, and the equation $Y = a + b \log X$ was found to give a satisfactory representation of the data. A comparison was made with weights of lenses from 20 known-age Rocky Mountain mule deer (Odocoileus hemionus hemionus) from Utah, and significant differences were found. Lenses from male and female deer differed significantly in weight. The effects of nutrition on lens weight are not clear cut, and even though there is a good general correlation with body weight, trends vary with increasing age. Using the regression, a test was made of the usefulness of the lens technique by estimating the ages of the known-age deer. The margin of error was found to be directly proportional to age, but did not bear a constant relationship and increased rapidly in deer older than 5 years. Accuracy was improved by comparing males and females with their appropriate regressions. In general, this technique is considered to be satisfactory for aging deer at least through 5 years, especially if only year classes are desired.

McKenzie, James V. THE KILLDEER MOUNTAINS "THE PLACE TO KILL DEER." N. Dak. Outdoors 27(5): 4-7, illus. Nov. 1964. WR 116: 35
[P.O. Box 518, Belfield, N. Dak.] A photograph-story of deer data collection. Game and Fish Dept. personnel field-dress deer in return for the opportunity to collect data from the deer.

McLain, Paul D. THE STORY OF THE DEER MIRRORS ON THE PARKWAY. N.J. Outdoors 15(6): 13-18, illus. Dec. 1964. WR 116: 35
[N.J. Div. Fish & Game, Trenton.] In a test to reduce automobile-deer collisions, nearly 1000 mirrors were erected on both sides of two sections totaling 5.4 miles of the Garden State Parkway. The 4 x 5 inch stainless steel mirrors are mounted 36 inches above the ground, 8-10 feet from the pavement, and at an angle of 45 degrees with the road. Installation was completed on June 1, 1964. The author expects that two years of data collection will be needed before meaningful conclusions can be deduced. This is believed to be the largest and most intensive study on the use of this technique which was developed in the Netherlands.

McMahan, Craig A. COMPARATIVE FOOD HABITS OF DEER AND THREE CLASSES OF LIVESTOCK. J. Wildl. Mgmt. 28(4): 798-808. Oct. 1964. WR 116: 35
[Texas Parks and Wildl. Dept., Hunt.] Abstract: To observe forage competition between deer and livestock, the forage selections of a tame deer (Odocoileus virginianus), a goat, a sheep, and a cow were observed under four range conditions, using both stocked and unstocked experimental pastures, on the Kerr Wildlife Management Area in the Edwards Plateau region of Texas in 1959. The animals were trained in 2 months of preliminary testing. The technique employed consisted of recording the number of bites taken of each plant species by each animal during a 45-minute grazing period in each pasture each week for 1 year. Results indicated moderate to heavy competition for browse and mast between the deer and goat in all pastures during all seasons, and between the deer and all three classes of livestock in the winter. Browse and mast comprized over 50 percent of the deer's diet, except in the spring and summer, and over 50 percent of the goat's diet in all seasons. Following a decrease in available browse, sheep become competitive with deer for forbs. Forbs formed an average of 68 percent of the deer's diet and 65 percent of the sheep's diet in the ungrazed control pasture in the summer; the animals generally were grazing the same species. The added factors of bearing and nursing fawns, and growing antlers, contribute to the nutritional stresses on deer in the summer, the period when extensive die-offs of deer most frequently occur in the Edwards Plateau region. Competition for grass between deer and livestock probably is important only when grass is in a succulent stage in the spring and no other forage is available in quantity. Continuous grazing by animals tends to remove the most palatable species and concentrates competition on fewer, less palatable ones. Observations from the numerous replications of feeding times and places allow the conclusion that this technique provides a reliable index to preferred foods and staple foods.

Nagy, Julius G., Harold W. Steinhoff, and Gerald M. Ward. EFFECTS OF ESSENTIAL OILS OF SAGEBRUSH ON DEER RUMEN MICROBIAL FUNCTION. J. Wildl. Mgmt. 28(4): 785-790, 1 fig. Oct. 1964. WR 116: 35
[Colo. State Univ., Fort Collins.] Abstract: Investigations were conducted on the effects of essential oils of big sagebrush (Artemisia tridentata) on growth and metabolism of bacteria, including rumen microorganisms of mule deer (Odocoileus hemionus), and effects of the sagebrush feeding on appetite, rumen function, and rumen bacterial function of a fistulated steer. Sagebrush essential oils showed inhibitory action on several gram-positive and gram-negative bacteria, using the disc assay method. The addition of 0.05-ml amounts of essential oils of sagebrush inhibited the growth of deer rumen microorganisms in 9-ml amounts of agar media. The rate of cellulose digestion was decreased when 0.002-ml amounts of oils were added to 6 ml of cellulose broth and was apparently inhibited by 0.04 ml of oils. The addition of 0.1-ml

amounts of oils added to 41 ml of deer rumen contents (sagebrush as substrate) decreased the rate of gas production and volatile fatty acid (VFA) concentrations. Appetite and rumen movements ceased completely following the introduction of 21 pounds of sagebrush in 7-pound daily portions through the rumen fistula of a steer.

Queal, Leland M. A KANSAS DEER SEASON FOR 1965. Kans. Fish & Game 22(1): 6-8, illus. Fall 1964. WR 116: 36
[3741 Humboldt, Topeka, Kans.] For the first time in more than 60 years, hunters will be able legally to kill deer in Kans. in the fall of 1965. The Kans. deer population was estimated to be 25,000-30,000 in the fall of 1964. During the past several years, the Kans. deer herd has been annually increasing at the rate of approximately 30%. During 1958-63, highway mortality of deer increased 160%. In Kans., the winter carrying capacity of the range is not the primary factor limiting deer populations. "It is apparent that the carrying capacity will be influenced by the economic factor--how much crop damage the farmers and ranchers will be able to tolerate."

Shick, Charles. DEER MANAGEMENT ON PRIVATE LANDS. Mich. State Univ., Coop. Ext. Serv., Bull. Resource Development Ser. E-427. [8 p.], illus. Sept. 1964. WR 116: 36
An outline of deer management practices with the usual emphasis on maintaining population levels at the carrying capacity of the range.

Ullrey, D. E., W. G. Youatt, H. E. Johnson, P. K. Ku, and L. D. Fay. DIGESTIBILITY OF CEDAR AND ASPEN BROWSE FOR THE WHITE-TAILED DEER. J. Wildl. Mgmt. 28(4): 791-797, 1 fig. Oct. 1964. WR 116: 36
[Mich. State Univ., East Lansing.] Abstract: Fourteen pregnant white-tailed deer (Odocoileus virginianus), 2-5 years old, were used to study the digestibility of browse from northern white cedar (Thuja occidentalis) and from large-toothed aspen (Populus grandidentata). Consumption of cedar exceeded consumption of aspen three to seven times and weight loss was appreciably more in the latter group. The apparent digestibility of the dry matter, crude fiber, nitrogen-free extract, and gross energy of cedar generally exceeded the corresponding values for aspen. Cellular hematology differences between treatments were not significant, but total serum protein concentrations declined with time in both groups. The rumen liquor of aspen-fed deer had a higher concentration of ammonia nitrogen, expressed as a percent of total nitrogen, and a lower concentration of butyric, propionic, and acetic acids.

MAMMALS--MARINE

Coulson, J. C., and Grace Hickling. THE BREEDING BIOLOGY OF THE GREY SEAL, HALICHOERUS GRYPUS (FAB.), ON THE FARNE ISLANDS, NORTHUMBERLAND. J. Animal Ecol. 33(3): 485-512, 15 figs. Oct. 1964. WR 116: 36
[Univ. Durham, Durham, England.]

Elsner, R. W., D. L. Franklin, and R. L. Van Citters. CARDIAC OUTPUT DURING DIVING IN AN UNRESTRAINED SEA LION. Nature 202(4934): 809-810, 3 figs. 23 May 1964. WR 116: 36
[Scripps Inst. Oceanography, San Diego, Calif.]

Melikhov, A. D., Z. S. Boldyreva, and L. G. Burba. [SOME DATA FROM THE STUDY OF THE DISEASES OF FUR SEALS ON THE BERING ISLAND SEALING GROUNDS.] Trudy Vses. Inst. Ekspt1. Vet. 27: 184-190. 1961. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 10I251. Transl. of Russian abstr.] WR 116: 36

Popov, L. A. [CONDITION OF WALRUS GROUNDS ON THE COAST OF THE LAPTEV SEA.] Okhrana Prirody & Ozelenenie 3: 95-104. 1960. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 5I265. Transl. of Russian abstr.] WR 116: 37

Scheffer, Victor B. HAIR PATTERNS IN SEALS (PINNIPEDIA). J. Morphol. 115 (2): 291-303, 4 figs., 1 pl. Sept. 1964. WR 116: 37
[Marine Mammal Biol. Lab., US F&WS, Seattle, Wash.] A study of the arrangement, abundance and size of hairs on the midback region of 44 seals, in 20 spp. representing the 20 genera.

Scheffer, Victor B., and Bertram S. Kraus. DENTITION OF THE NORTHERN FUR SEAL. Fishery Bull. 63(2): 293-315, 4 figs. + 26 pls. on pages 316-342. 1964. WR 116: 37
Abstract: Gross morphology and development of deciduous and permanent teeth of Callorhinus ursinus are described. The deciduous teeth are essentially nonfunctional; two-thirds of them are usually shed in fetal life. The permanent teeth begin to calcify very early; all have erupted from the jaw, though not all from the gum, at birth. Root growth continues through life, especially in teeth which retain an open pulp canal for 20 years. The 1st premolar and all molars in each quadrant are primary permanent teeth. A "lower 1st incisor" was presumably lost in the evolution of the seal. Cusplets and a double root on certain teeth suggest that modern teeth are derived from more complex ones. In 11 percent of specimens, supernumerary or prenatally absent teeth are recorded.

Worthington, E. B. GREY SEALS AND FISHERIES. Nature 203(4941): 116-118. July 1964. WR 116: 37
[Nat. Conserv., 19 Belgrave Square, London, S.W. 1, England.] The world population of grey seals (Halichoerus grypus) in 1964 was estimated at 46,000, with all but 10,000 being around the British Isles. There has been a 7% annual increase since 1956. A harvesting plan was instituted in 1962 in Orkney, with harvest limited to 750 seals. In 1963 the harvest totaled 974.

MAMMALS--OTHER GROUPS

Frith, H. J. MOBILITY OF THE RED KANGAROO, MEGALEIA RUFA. CSIRO Wildl. Res. 9(1): 1-19, 7 figs. + 4 pls. Sept. 1964. WR 116: 37
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Seemingly as a result of increased market hunting, there was a major decline in the red kangaroo population of inland New South Wales during 1960-63. Red kangaroos appear to be highly sedentary, with only short-range movements influenced by availability of green grass.

Frith, H. J., and G. B. Sharman. BREEDING IN WILD POPULATIONS OF THE RED KANGAROO, MEGALEIA RUFA. CSIRO Wildl. Res. 9(1): 86-114, 5 figs. + 1 pl. Sept. 1964. WR 116: 37
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Of 2528 mature females collected in the wild, 78.7% carried young in their pouches. Of the females with young in their pouches, 21.5% also had young-at-foot. Mortality of young was greater after young left the pouch than before and amounted to 83% of young in one area. It was suspected that mortality of young resulted from failure of mother's lactation which in turn resulted from reduced food supply and drought conditions. Breeding was continuous throughout the year. Some female red kangaroos reached sexual maturity before they were 18 months old, but most did not do so until they were about 30 months old.--From summ.

MAMMALS--OTHER GROUPS--Continued

Mykytowycz, R. A SURVEY OF THE ENDOPARASITES OF THE RED KANGAROO MEGALEIA RUFA (DESMAREST). Parasitology 54(4): 677-693, 10 figs. Nov. 1964. WR 116: 38
[Div. Wildl. Res., CSIRO, Canberra, A.C.T., Australia.] No parasites injurious to domestic stock were found in the 464 kangaroos examined.--From summ.

Sharman, G. B. THE FEMALE REPRODUCTIVE SYSTEM OF THE RED KANGAROO, MEGALEIA RUFA. CSIRO Wildl. Res. 9(1): 50-57, 2 figs. + 2 pls. Sept. 1964. WR 116: 38
[Div. Wildl. Res., CSIRO, Canberra, Australia.]

Sharman, G. B., and J. H. Calaby. REPRODUCTIVE BEHAVIOUR IN THE RED KANGAROO, MEGALEIA RUFA, IN CAPTIVITY. CSIRO Wildl. Res. 9(1): 58-85, 7 figs. + 6 pls. Sept. 1964. WR 116: 38
[Div. Wildl. Res., CSIRO, Canberra, Australia.] A reasonably comprehensive report covering age of sexual maturity of females, the estrous cycle, copulation, and parturition.

Sharman, G. B., H. J. Frith, J. H. Calaby, and G. A. McIntyre. GROWTH OF THE POUCH YOUNG, TOOTH ERUPTION, AND AGE DETERMINATION IN THE RED KANGAROO, MEGALEIA RUFA. CSIRO Wildl. Res. 9(1): 20-49, 12 figs. + 1 pl. Sept. 1964. WR 116: 38
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Based on data from captive animals.

BIRDS--GENERAL

Andone, G., and S. Pashkovskii. [THE WINTERING OF AQUATIC AND SOME OTHER BIRDS IN THE DANUBE DELTA IN 1958-1959.] Migratsii zhivotnykh. Akad. Nauk SSSR (Moscow). p. 118-125. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I186. Transl. of Russian abstr.] WR 116: 38

Bel'skaya, G. S., and A. N. Sukhinin. [THE DIET AND REPRODUCTION OF THE CARRION CROW (CORVUS CORONE) AND LONG-LEGGED BUZZARD (BUTEO RUFINUS).] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 28-29. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 6I233. Transl. of Russian abstr.] WR 116: 38

Chunikhin, S. P. [VERTICAL LAYERING IN THE DISTRIBUTION OF BIRDS IN KABARDINO-BALKAR.] Ornitologiya (Moscow) 5: 186-192. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 6I182. Transl. of Russian abstr.] WR 116: 38

Dobrinskii, L. N. [INDIVIDUAL AND GEOGRAPHIC VARIABILITY OF INTERNAL INDEXES IN BIRDS.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 126-128. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I123. Transl. of long Russian abstr.] WR 116: 38

Ficken, Robert W., and William C. Dilger. INSECTS AND FOOD MIXTURES FOR INSECTIVOROUS BIRDS. Avicultural Mag. 67(2): 46-55. Mar.-Apr. 1961. WR 116: 38
[Univ. Md., College Park.] Contains instructions for rearing the following insects as food for captive insectivorous birds: house cricket (Acheta domestica), wax moth (Galleria mellonella), house fly (Musca sp.), and blow fly (Calliphoridae). Also contains some suggestions for trapping insects for bird food, for conditioning wild-trapped birds to captive living, and some needed precautions in feeding and care of caged birds.

Gladkov, N. A. [IS EXTINCTION OF BIRDS INEVITABLE?] Priroda 9: 69-76. 1959. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1960, no. 58671. Transl. of Russian abstr.] WR 116: 39

Review of data in literature on the causes of the extinction of certain birds in history; most of them used to live on islands.

Hitchcock, W. B. NINTH ANNUAL REPORT OF THE AUSTRALIAN BIRD-BANDING SCHEME, JULY 1962 TO JUNE 1963. CSIRO, Div. Wildl. Res. Tech. Paper no. 7. 40 p. 1964. WR 116: 39

[Div. Wildl. Res., CSIRO, Canberra, Australia.] During the period, 83,218 birds of 355 spp. were banded and 9,444 recoveries were obtained. Of the 83,218 birds banded, 30,848 were taken in mist nets. Since 1955, birds banded totalled 311,958 and 28,277 (9.1%) were recovered. Banding and recovery totals are tabulated by species, and information is given on recoveries of special interest.

Hoogers, B. J. WAARNEMINGEN BIJ EEN SPECHTENSMIDSE EN EEN STEENUILPAARTJE. [OBSERVATIONS ON THE GREATER SPOTTED WOODPECKER AND ON THE LITTLE OWL.] Levende Nat. 64(5): 115-118, illus. 1961. [From Biol. Abstr. 45(5), 1964. In Dutch.] WR 116: 39

Karpovich, V. N. [RESULTS OF LARGE-SCALE USE OF WEIR BASKET TRAPS FOR TRAPPING SMALL BIRDS OVER SPRING FLOOD PLAINS. 2.] Trudy Oksk. Gos. Zapovednika 4: 431-434. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1963, no. 11I118. Transl. of Russian abstr.] WR 116: 39

Koshelev, A. I. [THE QUESTION OF THE POSSIBLE USE OF CONTINUOUSLY ACTING LINES OF AUTOMATIC SNARES FOR STUDYING THE ECOLOGIC FEATURES OF CERTAIN PASSERINE BIRDS.] Voprosy ekologii. Kiev Univ. (Kiev) 4: 122-123. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1962, no. 23I150. Transl. of Russian abstr.] WR 116: 39

Kosygin, G. M. [CHARACTERISTICS OF THE WINTER DIET OF BLACK GROUSE AND CARRION CROW IN THE LENSKII REGION OF YAKUTIA.] Ornitologiya (Moscow) 5: 147-148. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 7I206. Transl. of Russian abstr.] WR 116: 39

Cedar nuts played a significant role in the diet of black grouse (Lyrurus tetrix) and carrion crow (Corvus corone) in the winter of 1960.

Kumari, E. V., editor. [SUMMARIES OF PAPERS READ AT THE 5TH BALTIC ORNITHOLOGICAL CONFERENCE.] Estonian Acad. Sci. (Tartu). 216 p., mimeo. 1963. Price, 70 kopeks. [From Auk 81(4), 1964. In Russian.] WR 116: 39

Summaries of 97 papers on faunistics, zoogeography, ecology, physiology, morphology, and migration of birds from the USSR.

Shilov, I. A. [THE DISTRIBUTION OF THE ENTRANCE OF MAN-MADE BIRD NESTS.] Priroda 6: 116. 1959. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1960, no. 50773. Transl. of Russian abstr.] WR 116: 39

In the spring of 1954 more than 100 man-made bird nests were hung in the area of the Zvenigorodkaya Biological Station; 50-70% were populated (mostly by spotted flycatchers) (Muscicapsida hypolenca). When the nests were inhabited, the direction of the entrance was of secondary importance; but a certain relationship was noted between the frequency of nestling deaths and the direction of the entrance; in the cold summer of 1957, in 10 of 42 bird nests containing spotted flycatcher broods the nestlings died (in 8 cases the entrances to the nests faced north or west).

Shtegman, B. K. [THE PHYLOGENETIC RELATIONSHIP BETWEEN COLUMBIDS AND PTEROCLIDS AND THEIR SYSTEMIC POSITION.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 63(4): 25-36. 1958. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1959, no. 49397. Transl. of Russian abstr. Original (in Russian) with German summ.] WR 116: 39

Spuris, Z. D. [STATUS AND PROSPECTS OF ORNITHOLOGIC RESEARCH IN THE LATVIAN SSR.] In: (Ecology and migration of birds of the Baltic region.) Akad. Nauk Latviisk. SSR (Riga). p. 33-40. 1961. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1962, no. 23I141. Transl. of Russian abstr.] WR 116: 40

Uspenskii, G. A., I. M. Ganya, and V. I. Egorov. [HOLE NESTING BIRDS OF THE FORESTS AND ORCHARDS OF MOLDAVIA, THEIR PRACTICAL SIGNIFICANCE, AND PROBLEMS OF ATTRACTING THEM.] In: (Questions of the ecology and practical importance of the birds and mammals of Moldavia.) Stiintsa (Kishinev). p. 3-38. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 18I134. Transl. of Russian abstr.] WR 116: 40

Vinokurov, A. A. [EXPERIMENTS IN THE USE OF AUTOMATIC SNARES TO TRAP BIRDS IN THE DESERT.] Trudy Oksk. Gos. Zapovednika 4: 425-426. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1963, no. 11I117. Transl. of Russian abstr.] WR 116: 40

BIRDS--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Barlow, J. S. INERTIAL NAVIGATION AS A BASIS FOR ANIMAL NAVIGATION. J. Theoretical Biol. 6(1): 76-117. 1964. [From Bird-Banding 35(4), 1964.] WR 116: 40

Blagosklonov, K. N. [AN EXPERIMENTAL STUDY OF THE NESTING TRACTS OF SMALL BIRDS.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 40-42. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I195. Transl. of Russian abstr.] WR 116: 40

Determinations were made of the boundaries of the nesting tracts of small birds by transferring inhabited nests of small insect-eating birds. Several hundred nests of more than 9 spp. were transferred (the largest number were artificial nests of the pied flycatcher) for distances ranging from a few meters to several kilometers.

Blondel, Jacques. MIGRATION PRENUPTIALE DANS LES MONTS DES KSOURS (SAHARA SEPTENTRIONAL). [PREBREEDING (BIRD) MIGRATION IN THE KSOURS MOUNTAINS.] Alauda Rev. Internatl. Ornithol. 30(1): 1-29. 1962. [From Biol. Abstr. 45(5), 1964. In French.] WR 116: 40

Blumenthal, I. I., and V. R. Dolnjik. [METHODS OF QUANTITATIVE ESTIMATION OF THE MUTUAL INFLUENCE DIFFERENT SPECIES OF BIRDS HAVE ON EACH OTHER IN THE MIGRATION PERIOD. In: (Application of mathematical methods in biology.) Leningrad Univ. Press. p. 110-117. 1963. [From Auk 81(4), 1964. In Russian.] WR 116: 40

Blyumental', T. I. [MOLTING AND FATTINESS OF SOME PASSERINES IN THE KURSHSK SAND BAR AT THE TIME OF THE FALL MIGRATION IN 1959. In: (Ecology and migration of birds of the Baltic region.) Akad. Nauk Latviisk. SSR (Riga). p. 295-304. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 20I196. Transl. of Russian abstr.] WR 116: 40

Busse, Przemyslaw, and Jerzy Gotzman. KONKURENCJA GNIAZDOWA I LEGI MIEZANE U NIEKTORYCH GATUNKOW DZIUPLAKOW. [NESTING COMPETITION AND MIXED CLUTCHES AMONG SOME BIRDS INHABITING THE NEST-BOXES.] Acta Ornithol. 7(1): 1-32, illus. 1962. [From Biol. Abstr. 45(1), 1964. In Polish with Russian and English summ.] WR 116: 40

[Inst. Zool., Warsaw, Poland.] Results of observations carried out during 1955-1961.

Dol'nik, V. R. [COMPARISON OF CYCLIC CHANGES IN THE BIOENERGETIC STATE, MOLTING, SEX CYCLE AND MOTOR ACTIVITY IN BIRDS IN NATURE AND IN CAPTIVITY.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 133-136. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 8I262. Transl. of Russian abstr.] WR 116: 41

Dow, Douglas D. DIVING TIMES OF WINTERING WATER BIRDS. Auk 81(4): 556-558. Oct. 1964. WR 116: 41
[Univ. British Columbia, Vancouver.] Data on durations of dives for 7 spp. of birds.

Drost, Rudolf. ZUR FRAGE DER BEDEUTUNG NACHTLICHER ZUGRUFE. [THE QUESTION OF THE SIGNIFICANCE OF NOCTURNAL CALLS BY MIGRATING BIRDS.] Vogelwarte 22(1): 23-26. 1963. [From Biol. Abstr. 45(4), 1964. In German with English summ.] WR 116: 41

Eastwood, E., and G. C. Rider. THE INFLUENCE OF RADIO WAVES UPON BIRDS. British Birds 57(11): 445-458, 5 figs. Nov. 1964. WR 116: 41
It seems difficult to avoid the conclusion that any interaction between alternating electro-magnetic fields and the sensory equipment of birds can be of secondary importance only, if it exists at all. Such radiations appear to produce thermal effects only, the same in birds as in other creatures.--From concl.

Fal'kenshtein, B. Yu. [ECOLOGICAL STUDY OF HIGHER NERVOUS ACTIVITY IN BIRDS AND THE SOLUTION OF SOME PROBLEMS IN APPLIED ORNITHOLOGY.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk Univ. (L'vov) 2: 222-224. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 14I173. In Russian.] WR 116: 41

Farkas, T. KLANK AS KOMMUNIKASIEMIDDEL BY VOËLS. [SOUND AS A MEANS OF COMMUNICATION BY BIRDS.] Fauna & Flora (Pretoria) 14: 32-39, [3 figs.]. 1963. In Afrikaans. WR 116: 41

Gladkov, N. [MOLTING OF BIRDS.] Okhota & Okhotnich'e Khoz. 8: 19-23. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I118. Transl. of Russian abstr.] WR 116: 41

Hemmingsen, Axel M. BIRDS ON HIERRO AND THE RELATION OF NUMBER OF SPECIES, AND OF SPECIFIC ABUNDANCES AND BODY WEIGHTS, TO ISLAND AREA. Vidensk. Medd. 125: 207-236, illus. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 41
[Strødam Biol. Lab., Hillerød, Denmark.]

Il'enko, A. I. [STUDIES OF SEASONAL WEIGHT VARIATIONS IN SMALL BIRDS.] Ornitologiya (Moscow) 4: 427-430. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I200. Transl. of Russian abstr.] WR 116: 41

Johansen, Hans. ORNITHOLOGISKE UNDERSØGELSER PÅ STRØDAMRESERVATET, UDFØRT FRA 1947 TIL 1958. [ORNITHOLOGICAL INVESTIGATIONS AT THE STRODAM RESERVE 1947-1958.] Dansk Ornithol. Forenings Tidsskr. 57(1): 25-38, illus., map. 1963. [From Biol. Abstr. 45(6), 1964. In Danish with English summ.] WR 116: 41
[Univ. Lab., Osterby, Laeso, Denmark.]

Johnston, David W. ECOLOGIC ASPECTS OF LIPID DEPOSITION IN SOME POSTBREEDING ARCTIC BIRDS. Ecology 45(4): 848-852, 1 fig. Autumn 1964. WR 116: 41
[Univ. Fla., Gainesville.] A series of 112 birds was collected in Alaska during the premigratory period of late summer, and fat deposition was found only in a few adult western sandpipers (Ereunetes mauri). Other species represented in the collection were golden plover (Pluvialis dominica), arctic tern (Sterna paradisea), hoary redpoll (Acanthis hornemanni), common redpoll (A. flammea), and Lapland longspur (Calcarius lapponicus).

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Kuznetsov, A. A. [THE BIOLOGY OF BIRDS OF THE HIGH MOUNTAINS OF THE KIRGIZ RANGE.] Ornitologiya (Moscow) 5: 215-242. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I242. Transl. of Russian abstr.] WR 116: 42

Lasiewski, Robert C., and William R. Dawson. PHYSIOLOGICAL RESPONSES TO TEMPERATURE IN THE COMMON NIGHTHAWK. Condor 66(6): 477-490, 6 figs. Nov. 1964. WR 116: 42

An inverse relation exists between heart rate and ambient temperature, with 125 beats per minute at 37 C and 330 at 4 C. Common nighthawks (Chordeiles minor) have the physiological capacity to enter into and arouse from torpor, but only after prolonged starvation.--From summ.

Lebedeva, M. I. [MIGRATIONS OF STERNA HIRUNDO.] Migratsii zhivotnykh. Akad. Nauk SSSR (Moscow) 3: 87-91. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 11I180. Transl. of Russian abstr.] WR 116: 42

Leonovich, V. V., and V. S. Zaletaev. [UNDER THE PROTECTION OF THE STRONG.] Priroda 52(3): 91-96, illus. 1963. [From Biol. Abstr. 45(4), 1964. In Russian.] WR 116: 42

The authors consider the tendency of small birds to form associations around large, predatory birds. Some of these associations found in various parts of the USSR (tundra zone, the forest zone of the European part of the USSR, etc.) are described. Examples are cited in which the smaller birds carried out their reproductive cycle under the protection of the stronger ones. Examples are considered of extreme cases in which some small spp. nested in the vicinity of their real enemies. This may be because predatory birds do not usually hunt for prey close to their own nests.--M. Das.

Marshall, Joe T., Jr. VOICE IN COMMUNICATION AND RELATIONSHIPS AMONG BROWN TOWHEES. Condor 66(5): 345-356, 5 figs. Sept. 1964. WR 116: 42

[Ariz.-Sonora Desert Museum, Tucson.] Vocalizations of brown towhees convey precise information to other members of the species, thus directing pair relations, advertisement of territory, and other domestic affairs. Course of evolutionary development of the different species and races of brown towhees (Pipilo aberti, P. fuscus fuscus, P. f. crissalis, and P. albicollis) is postulated from a study of their voices.

Marshall, Shirley G., and Virginia B. Baker. UNIVERSITY OF GEORGIA STUDIES ON THE ROLE OF FAT IN BIRD MIGRATION. Oriole 29(3): 35-39, 1 fig. Sept. 1964. WR 116: 42

[Univ. Ga., Athens.] A review of the major findings and techniques used in Univ. Ga. studies on fat deposition in migratory birds. A chronological listing of 19 papers or theses is included.

Mathiasson, Sven. STORMFÅGLAR (FULMARUS GLACIALIS) I SVENSKA VATTEN, EN BIOMETRISK-MORFOLOGISK STUDIE MED SYFTE ATT KLARLÄGGA DERAS URSPRUNG. [FULMARS IN SWEDISH WATERS, A BIOMETRIC-MORPHOLOGICAL STUDY DESIGNED TO ESTABLISH THEIR GEOGRAPHICAL ORIGIN.] Vår Fågelvärld 22: 271-289. 1963. [From Bird-Banding 35(4), 1964. In Swedish with English summ.] WR 116: 42

McDaniel, Burruss, Edwin Bogusch, and Shirley McDaniel. A UNIQUE BEHAVIOR PATTERN AND OBSERVATIONS OF ROSEATE SPOONBILLS (AJAIA AJAJA) IN KLEBERG COUNTY, TEXAS. Texas J. Sci. 15(3): 354-356. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 42

[Bogusch: Texas Coll. Arts & Indust., Kingsville, Texas.]

Mewaldt, L. Richard, Martin L. Morton, and Irene L. Brown. ORIENTATION OF MIGRATORY RESTLESSNESS IN ZONOTRICHIA. Condor 66(5): 377-417, 20 figs. Sept. 1964. WR 116: 43

[San Jose State Coll., San Jose, Calif.] Appropriate for migratory birds in the northern hemisphere, spring activity of caged birds was concentrated in northern sectors and fall activity in southern sectors of the cage. Nighttime, but not daytime, activity was concentrated in the sector of the cage appropriate to seasonal migratory movements. In spring, most night restlessness was prior to midnight; in fall most night restlessness was between midnight and dawn. Birds derive visual information from the clear but moonless night sky to orient their Zugunruhe. A high level of night restlessness and strong directional choice were not always associated. Night activity persists beyond the spring migration time but is greatly reduced during periods of molt.--From summ.

Mikheev, A. V. [MOLTING AND MIGRATION OF BIRDS.] Ornitologiya (Moscow) 4: 336-347. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1963, no. 7I182. Transl. of Russian abstr.] WR 116: 43

Millar, John B. AUTUMN MOVEMENTS OF YOUNG MAGPIES. Bird-Banding 35(4): 265. Oct. 1964. WR 116: 43

[Canadian Wildl. Serv., Saskatoon, Saskatchewan.] A Pica pica, banded as a nestling, traveled 360 miles east-southeast between June 26 and Nov. 26, 1962.

Mumford, Russell E. THE BREEDING BIOLOGY OF THE ACADIAN FLYCATCHER. Misc. Publ. Museum Zool., Univ. Mich., no. 125. 50 p., 2 pls. 7 Oct. 1964. $1.00. WR 116: 43

With sections on: study area, arrival on the breeding grounds, territory, vocalization, pre-incubation behavior, polygyny, nest-site selection, nest construction, re-use of nest from previous season, clutch size, description of eggs, laying, cowbird parasitism, incubation, hatching, description and behavior of nestlings, feeding of young, foods eaten, brooding, nest defense, nest-leaving, fledgling behavior, renesting, number of broods, departure from the nesting grounds, and miscellaneous.

Murray, Bertram G., Jr., and Joseph R. Jehl, Jr. WEIGHTS OF AUTUMN MIGRANTS FROM COASTAL NEW JERSEY. Bird-Banding 35(4): 253-263. Oct. 1964. WR 116: 43

[Univ. Mich., Ann Arbor.] Summary: The weights of birds at the Island Beach Operation Recovery Station are reported and compared with weight data from several other areas. The average weights of Island Beach migrants are lowest, and we suggest that the Island Beach migrants have been flying longer. Most migrants arriving at Island Beach come in from over the ocean. Thus, migrants at Island Beach are captured after a nocturnal and overwater flight.

Nakamura, Toru. [OBSERVATIONS ON THE BREEDING BIOLOGY OF LONG-TAILED TITS.] Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 3(3): 155-173. 1962. [From Biol. Abstr. 45(3), 1964. In Japanese.] WR 116: 43

Nicolai, Jürgen. BRUTPARASITISMUS DER VIDUINAE ALS ETHOLOGISCHES PROBLEM. PRÄGUNGSPHÄNOMENE ALS FAKTOREN DER RASSEN- UND ARTBILDUNG. [BROOD PARASITISM OF THE VIDUINES AS AN ETHOLOGICAL PROBLEM. IMPRINTING PHENOMENA AS FACTORS IN RACE AND SPECIES FORMATION.] Z. für Tierpsychol. 21(2): 129-204. 1964. [From Bird-Banding 35(4), 1964. In German with English summ.] WR 116: 43

Odum, E. P. PREMIGRATORY HYPERPHAGIA IN BIRDS. Am. J. Clinical Nutrition 8: 621-629. 1960. [From Ibis 106(4), 1964.] WR 116: 43

A review of work up to 1959 on migratory obesity, and a comparison with obesity in other animals. A symposium discussion is given in full.

Onno, S. Kh. [OBSERVATIONS OF FALL BIRD MIGRATION AT THE PUKHTUS ORNITHOLOGICAL STATION OF THE ESTONIAN SSR.] Zool. Zhur. 37(1): 75-86. 1958. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1960, no. 2194. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 43

Orians, Gordon H., and Mary F. Willson. INTERSPECIFIC TERRITORIES OF BIRDS. Ecology 45(4): 736-745, 4 figs. Autumn 1964. WR 116: 44
[Univ. Wash., Seattle.] Interspecific territoriality among birds may be much more common than is currently recognized. Evidence indicates that most species are prepared to expand ecologically but are continually held in check by competition with other species.

Pavlova, N. R. [FEATURES OF THE REPRODUCTION AND FEEDING OF THE BANK SWALLOW IN THE OKA PRESERVE.] Ornitologiya (Moscow) 4: 122-131. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 10I197. Transl. of Russian abstr.] WR 116: 44

Perkins, J. P. A SHIP'S OFFICER FINDS 17 FLYWAYS OVER THE GREAT LAKES. PART I. Audubon Mag. 66(5): 294-299, illus. Sept.-Oct. 1964. WR 116: 44
[Conneaut, Ohio.] Observations and notes collected during 31 years indicate that migrating birds use 7 flyways across Lake Superior, 4 across Lake Michigan, 3 across Lake Huron and 3 across Lake Erie. The routes and numbers of species using each route are mapped.

Potapov, R. L. [DATA ON THE BIOLOGY OF LEUCOSTICTE ARCTOA PAMIRENSIS SEV. IN THE PAMIR.] Zool. Zhur. 42(5): 716-726, illus. 1963. [From Biol. Abstr. 45(1), 1964. In Russian with English summ.] WR 116: 44
[Zool. Inst., Acad. Sci. USSR, Leningrad, USSR.]

Rogers, David T., Jr., and Eugene P. Odum. EFFECT OF AGE, SEX, AND LEVEL OF FAT DEPOSITION ON MAJOR BODY COMPONENTS IN SOME WOOD WARBLERS. Auk 81(4): 505-513, 2 figs. Oct. 1964. WR 116: 44
[Univ. Ga., Athens.] Fat levels had little or no effect on water content and nonfat dry weight of birds. The caloric equivalent of weight gained or lost before and during migration is at least 9.0 kcal/g.

Ropartz, Ph. EXPERIENCES CONCERNANT LE ROLE DE LA COLORATION BUCCALE DES POUSSINS DANS LE COMPORTEMENT NOURRICIER DES PARENTS. [THE ROLE OF BUCCAL COLORATION OF NESTLINGS IN THE BEHAVIOR OF PARENTS.] Alauda Rev. Internatl. Ornithol. 29(4): 274-278. 1961. [From Biol. Abstr. 45(5), 1964. In French.] WR 116: 44
[Lab. Ethol. Exptl., Bures-sur-Yvette, France.] The color of the mouth of young cuckoos resembles that of young of foster parents.--D. E. Davis.

Rowan, M. K. AN ANALYSIS OF THE RECORDS OF A SOUTH AFRICAN RINGING STATION. Ostrich 35(3): 160-187, 4 figs. Sept. 1964. WR 116: 44
[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.] Analysis of results obtained at a South African banding station during 1954-60. Only 0.46% of the birds banded were recaptured, and 60% of recaptures were made near the banding station. Somewhat detailed analyses are made of the banding data of three species of ploceids: Passer melanurus, Ploceus velatus, and Euplectes orix.

Shlapak, G. D. [SOME BIOLOGICAL FEATURES OF BIRDS WHICH BECOME EVIDENT ON RINGING.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 250-251. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I184. Transl. of Russian abstr.] WR 116: 44
Based on 8 years of banding studies.

Sick, Helmut. ESCRAVISMO EM AVES BRASILEIRAS. [IRREGULAR NESTING BEHAVIOR IN BRAZILIAN BIRDS.] Arq. Mus. Nac. (Rio de Janeiro) 52: 185-192, illus. 1962. [From Biol. Abstr. 45(4), 1964. In Portuguese with English summ.] WR 116: 44
[Mus. Nac., Rio de Janeiro, Brazil.]

Simmons, K. E. L. FURTHER RECORDS OF ANTING IN PASSERINE BIRDS. Avicultural Mag. 69(4): 148. 1963. [From Biol. Abstr. 45(1), 1964.] WR 116: 45

Small, James R. A POSSIBLE ROLE OF THE MUSCULUS COMPLEXUS IN PIPPING THE CHICKEN EGG. Am. Midland Nat. 72(2): 499-506, 5 figs. Oct. 1964. WR 116: 45
[Macalester Coll., St. Paul, Minn.] It is suggested that the musculus complexus in the upper cervical region functions in pipping as a hydraulic pressure mechanism rather than purely a contractile mechanism. Size and turgidity of the muscle are maximal at time of pipping due to selective infiltration by lymph. Size and lymph content rapidly decline after pipping.--From abstr.

Smiley, Daniel. ANOTHER NINE-YEAR-OLD CHICKADEE. Bird-Banding 35(4): 267. Oct. 1964. WR 116: 45
[Mohonk Lake, New Paltz, N. Y.] An age record for a banded Parus atricapillus.

Strokov, V. V. [CONGENITAL AND CONDITIONED REFLEXES IN BIRDS AND THEIR INFLUENCE ON THE CHOICE OF THE MATERIAL FOR NEST BUILDING.] Zool. Zhur. 43 (6): 889-897. 1964. [From Ibis 106(4), 1964. In Russian with English summ.] WR 116: 45

Tinbergen, N. EIDOPPEN ZIJN GEVAARLIJK. [EGG-SHELLS ARE DANGEROUS.] Levende Nat. 64(12): 265-272, illus. 1961. [From Biol. Abstr. 45(5), 1964. In Dutch.] WR 116: 45
[Zool. Lab., Univ. Oxford, Oxford, England.] A study to determine the essential characteristics of eggs and empty egg shells which cause the gulls to carry empty shells from the nest. Use of models indicates that the gulls recognize empty shells by the presence of a thin edge and the irregularities of such edges. White coloration at the edge also contributes. The weight of the object recognized as an empty shell is of great importance. A heavy object is not carried away, but rather, rolled into the nest. Gulls never carry away a broken egg shell with the young still in it.

Vince, M. A. USE OF THE FEET IN FEEDING BY THE GREAT TIT PARUS MAJOR. PART 1. THE NORMAL PATTERNS AND FOOT PREFERENCE. Ibis 106(4): 508-529, 14 figs. Oct. 1964. WR 116: 45
[Psychol. Lab., Downing St., Cambridge, England.] A study on the development in captive-reared birds of the habit of using the right or left foot in feeding.

Walrecht, B. J. J. R. AFWIJKENDE NESTBOUW VAN DE HUISZWALUW. [ABERRANT NEST CONSTRUCTION IN THE HOUSE-MARTIN (DELICHON URBICA).] Levende Nat. 64 (1): 17-22, 39-43, illus. 1961. [From Biol. Abstr. 45(4), 1964. In Dutch.] WR 116: 45

Winterbottom, J. M. NOTES ON THE COMPARATIVE ECOLOGY OF THE LONG-TAILED SUGARBIRD AND ORANGE-BREASTED SUNBIRD. Ostrich 35(3): 239-240. Sept. 1964. WR 116: 45
[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.]

Zimin, V. B., and E. V. Ivanter. [FALL MIGRATION OF BIRDS OVER CENTRAL KARELIA.] In: (Ecology and migration of birds of the Baltic region.) Akad. Nauk Latviisk. SSR (Riga). p. 189-198. 1961. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 11I189. Transl. of Russian abstr.] WR 116: 45

Benson, C. W., R. K. Brooke, and C. J. Vernon. BIRD BREEDING DATA FOR THE RHODESIAS AND NYASALAND. Occas. Papers Natl. Museums Southern Rhodesia 4 (27B): 30-105. May 1964. WR 116: 46
Monthly totals of records of nesting of many species of birds. Additional information on clutch size for some species.

Benson, C. W., and M. P. Stuart Irwin. SOME ADDITIONS AND CORRECTIONS TO A CHECK LIST OF THE BIRDS OF NORTHERN RHODESIA. NUMBER 5. Occas. Papers Natl. Museums Southern Rhodesia 4(27B): 106-127. May 1964. WR 116: 46
This is no. 5 in a series of papers with the same title. Earlier installments appeared in nos. 22B, 23B, 24B, and 26B of the same journal.

Courtenay-Latimer, M. CHECK LIST OF BIRDS OF THE EAST LONDON AREA. South African Avifauna Ser. Percy Fitzpatrick Inst. African Ornithol. no. 20. 76 p. 75¢. 1964. WR 116: 46
Annotated list of 376 spp. of this area in the Union of South Africa.

Drent, R., G. F. van Tets, F. Tompa, and K. Vermeer. THE BREEDING BIRDS OF MANDARTE ISLAND, BRITISH COLUMBIA. Canadian Field-Nat. 78(4): 208-263, 22 figs. Oct.-Dec. 1964. WR 116: 46
[Univ. British Columbia, Vancouver.] Summary: Distribution and numbers of the ten species of birds presently breeding on Mandarte are described on the basis of six summers' residence on the island. Statistics on breeding season, nesting success and related topics are presented for Phalacrocorax auritus, P. pelagicus, Haematopus bachmani, Larus glaucescens, Cepphus columba, Corvus caurinus, and Melospiza melodia.

Erskine, Anthony J. NEW BIRD RECORDS FROM CAPE BRETON ISLAND, NOVA SCOTIA. Canadian Field-Nat. 78(2): 89-92. Apr.-June 1964. WR 116: 46
[Canadian Wildl. Serv., Sackville, New Brunswick, Canada.] Based on field work during 1949-1963.

Finzel, Jean E. AVIAN POPULATIONS OF FOUR HERBACEOUS COMMUNITIES IN SOUTHEASTERN WYOMING. Condor 66(6): 496-510. Nov. 1964. WR 116: 46
[Adams State Coll., Alamosa, Colo.] Comparisons were made of the bird populations in four different plant communities based on censuses.

Gladkov, N. A. [SEASONAL CHANGES IN THE ORNITHOFAUNA OF THE USSR (STATISTICAL ANALYSIS OF THE WINTER FAUNA).] Vest. Mosk. Univ. Ser. Biol., Pochvovedeniya, Geol., Geog. 1: 173-180. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 67544. Transl. of Russian abstr.] WR 116: 46

Gorner, L. VOGELSCHUTZ IM WEINBAU. [BIRD CONSERVATION IN VINEYARDS.] Weinberg & Keller 9(11/12): 416-418, illus. 1962. [From Biol. Abstr. 45(2), 1964. In German.] WR 116: 46

Goutbeek, A. DE DICHTHEID VAN BROEDVOGELBEVOLKINGEN IN BEBOUWDE KOMMEN. [THE DENISTY OF BIRDS NESTS IN RESIDENTIAL AREAS.] Levende Nat. 64(10): 239-240, illus. 1961. [From Biol. Abstr. 45(5), 1964. In Dutch.] WR 116: 46
A case is described where 19 different spp. of birds made their nests in 1 acre of residential area.--P. Korringa.

Grant, P. R. THE BIRDS OF THE TRES MARIETAS ISLANDS, NAYARIT, MEXICO. Auk 81(4): 514-519, 1 fig. Oct. 1964. WR 116: 46
[Univ. British Columbia, Vancouver 8.] Includes a list of 37 spp. observed during 4 visits to the islands.

Il'ichev, V. D. [PROBLEMS ASSOCIATED WITH THE FORMATION OF THE BIRD FAUNA IN THE URAL MOUNTAINS.] Ornitologiya (Moscow) 4: 135-141. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1962, no. 9I142. Transl. of Russian abstr.] WR 116: 46

Ishadov, N. [NESTING AVIFAUNA OF THE GERMAB (KOPET-DAG) AND ITS ENVIRONS.] Izv. Akad. Nauk Turkmensk. SSR Ser. Biol. Nauk 1: 73-78, illus. 1963. [From Biol. Abstr. 45(5), 1964. In Russian.] WR 116: 47

Joensen, Anders Holm. YNGLEFUGLENE PÅ SKÚVOY, FAERØERNE, DERES UDBREDELSE OG ANTAL. [THE BREEDING BIRDS OF SKÚVOY, FAEROES, THEIR DISTRIBUTION AND NUMBERS.] Dansk Ornithol. Forenings Tidsskr. 57(1): 1-18, illus., maps. 1963. [From Biol. Abstr. 45(7), 1964. In Danish with English summ.] WR 116: 47
[Solbakkevej 42, Gentofte, Denmark.]

Kartashev, N. N. [QUANTITATIVE CHARACTERIZATION OF BIRD FAUNA FROM THE SOLOVETSKIE ISLANDS (WHITE SEA).] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 13-14. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I146. Transl. of Russian abstr.] WR 116: 47

Kessel, Brina, Heinrich K. Springer, and Clayton M. White. JUNE BIRDS OF THE KOLOMAK RIVER, YUKON-KUSKOKWIM DELTA, ALASKA. Murrelet 45(3): 37-47. Sept.-Dec. 1964. WR 116: 47
[Univ. Alaska, College.] An annotated list of birds observed during June 1963.

Krivitskii, I. A. [THE WINTER BIRD FAUNA OF THE KURGAL'DZHINSK FOREST PRESERVE REGION.] Ornitologiya (Moscow) 4: 208-217. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I162. Transl. of Russian abstr.] WR 116: 47

Kuznetsov, A. A. [COMPOSITION, NUMBER AND DISTRIBUTION OF BIRD FAUNA OF THE HIGH MOUNTAINS IN THE KIRGIZ RANGE.] Ornitologiya (Moscow) 4: 237-255. 1962. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1963, no. 4I144. Transl. of Russian abstr.] WR 116: 47

Likhachev, G. N. [ORNITHOLOGICAL OBSERVATIONS IN THE OAK GROVES OF THE TUL'SK OBLAST.] Ornitologiya (Moscow) 5: 110-112. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 6I237. Transl. of Russian abstr.] WR 116: 47

Malyshevskii, R. I. [SUMMER OBSERVATIONS OF BIRDS OF THE TERSKII BANK OF THE WHITE SEA.] Ornitologiya (Moscow) 5: 13-27. 1962. [From Biol. Abstr. 45 (5), 1964, from Referat. Zhur., Biol., 1963, no. 7I239. Transl. of Russian abstr.] WR 116: 47

Sibley, Charles G., and Fred C. Sibley. HYBRIDIZATION IN THE RED-EYED TOWHEES OF MEXICO: THE POPULATIONS OF THE SOUTHEASTERN PLATEAU REGION. Auk 81 (4): 479-504, 7 figs. Oct. 1964. WR 116: 47
[Cornell Univ., Ithaca, N. Y.] Includes a discussion of possible effects of man-caused changes of the habitat on development of Pipilo ocai and P. erythrophthalmus.

Skead, C. J. BIRDS OF THE AMATOLE FORESTS, KING WILLIAM'S TOWN AND STUTTERHEIM, C.P. Ostrich 35(3): 142-159. Sept. 1964. WR 116: 47
[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.] List of species with ecological annotations.

Stager, Kenneth E. THE BIRDS OF CLIPPERTON ISLAND, EASTERN PACIFIC. Condor 66(5): 357-371, 7 figs. Sept. 1964. WR 116: 47
[Los Angeles County Museum, Los Angeles, Calif.] An intensive survey revealed the presence of 23 spp., 14 of which had not earlier been reported on Clipperton Island. The resident sea bird population was greatly reduced as compared with numbers earlier reported. Feral pigs were suspected of being responsible for breeding failure of ground-nesting birds, and the entire pig population was destroyed in Aug. 1958.--From summ.

Watson, Adam. BIRD NUMBERS ON TUNDRA IN BAFFIN ISLAND. Arctic 16(2): 101-108, illus. 1963. [From Biol. Abstr. 45(5), 1964.] WR 116: 48
[Marischal Coll., Aberdeen, Scotland.]

Williamson, Kenneth. A CENSUS OF BREEDING LAND-BIRDS ON HIRTA, ST. KILDA, IN SUMMER, 1963. Bird Study 11(3): 153-167, 1 fig. Sept. 1964. WR 116: 48
[25 Mill View Rd., Tring, Hertfordshire, England.] Data on 18 spp.

Winterbottom, J. M. SOME MS. NOTES ON BASUTOLAND BIRDS BY J. P. MURRAY. South African Avifauna Ser. Percy Fitzpatrick Inst. African Ornithol. no. 21. 10 p. 20¢. 1964. WR 116: 48
Notes on occurrences of 65 spp.

Yocom, Charles F. NOTEWORTHY RECORDS OF BIRDS FROM THE FORT YUKON AREA AND THE YUKON FLATS, ALASKA. Murrelet 45(3): 30-36, 1 fig. Sept.-Dec. 1964. WR 116: 48
[Humboldt State Coll., Arcata, Calif.] An annotated list of birds observed in the summer of 1962.

BIRDS--POPULATIONS & FLUCTUATIONS

Bagge, P., M. Lehtovuori, and O. Lindquist. [QUANTITATIVE STUDIES IN INARI AND ENONTEKIÖ PARISHES IN NORTHERN LAPLAND.] Ornis Fennica 40: 21-31. 1963. [From Auk 81(4), 1964. In Finnish with German summ.] WR 116: 48
Density of breeding birds was estimated by strip census in boreal forest, birch ecotone, and alpine habitats. The results (pairs/sq km) were: pine forest, 45; pine-birch forest, 86; subalpine woods, 24-128; alpine dwarf-birch muskeg, 90-94.

Bengtson, S. A. [ON THE INFLUENCE OF SNOW UPON THE NEST SUCCESS IN ICELAND IN 1961.] Vår Fågelvärld 22: 97-122. 1963. [From Auk 81(4), 1964. In Swedish with English summ.] WR 116: 48

Dyunin, A. G. [CHANGES IN THE COMPOSITION OF THE BIRD FAUNA OF THE SMALL KZYL-AGACH BAY IN CONNECTION WITH ITS DECREASING SALINITY.] Okhrana Prirody & Ozelenenie (Moscow) 4: 53-54. 1960. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 6I183. Transl. of Russian abstr.] WR 116: 48

Osmolovskaya, V. I. [AN EXPERIMENT ON QUANTITATIVE COUNTING AND MAPPING OF BIRD COLONIES IN LARGE TERRITORIES.] In: (A study of the geographical natural resources of the animal and plant world.) Akad. Nauk USSR (Moscow). p. 33-46. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 6I157. Transl. of Russian abstr.] WR 116: 48

Robbins, Sam. THE 1963 SUMMER BIRD COUNT. Passenger Pigeon 26(2): 71-83, 1 map. Summer 1964. WR 116: 48
[Roberts, Wis.] An analysis of 46 summer bird counts made by 71 observers at scattered locations in Wis. This 1963 count constitutes the third year of an organized program of making bird counts as a basis for following trends in bird populations.

Vilks, K. A. [BIRD POPULATION DYNAMICS IN THE VICINITY OF STRENCHI (LATVIAN SSR) FOR THE PAST FOURTEEN YEARS.] In: (Ecology and migration of birds of the Baltic region.) Akad. Nauk Latviisk. SSR (Riga). p. 323-325. 1961. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I149. Transl. of Russian abstr.] WR 116: 48

Dennis, John V. WOODPECKER DAMAGE TO UTILITY POLES: WITH SPECIAL REFERENCE TO THE ROLE OF TERRITORY AND RESONANCE. Bird-Banding 35(4): 225-253, 1 fig. Oct. 1964. WR 116: 49

[Box 389, Leesburg, Va.] Seven North American species are responsible for most of the severe damage to utility poles: ladder-backed woodpecker (Dendrocopos scalaris), golden-fronted woodpecker (Centurus aurifrons), red-headed woodpecker (Melanerpes erythrocephalus), acorn woodpecker (Melanerpes formicivorus), red-shafted flicker (Colaptes cafer), yellow-shafted flicker (Colaptes auratus), and pileated woodpecker (Dryocopus pileatus). The pileated woodpecker is responsible for much of the most serious damage. Shakes, hollow pith centers, and other resonance locations in the pole are detected by woodpeckers and are often sites for excavation. Pole damage is associated with high density woodpecker populations. Shortage of natural sites for roosting and nesting is seldom the basis for woodpecker attack upon poles.

Dobinson, H. M., and A. J. Richards. THE EFFECTS OF THE SEVERE WINTER OF 1962/63 ON BIRDS IN BRITAIN. British Birds 57(10): 373-434, 8 figs. + 4 pls. Oct. 1964. WR 116: 49

The hard winter features which apparently have the greatest effect on birds are low temperatures, lengthy snow cover, freezing of rivers and shores which are otherwise convenient refuges, icing of trees and other food sources, and especially prolonged conditions. The winter of 1962/63 was severe in all these respects, but mortality was apparently lower among many birds, particularly lapwings, skylarks, tits, nuthatches and fieldfares, than in 1916/17 or 1939/40. --From concl.

Dunthorn, A. A., and F. P. Errington. CASUALTIES AMONG BIRDS ALONG A SELECTED ROAD IN WILTSHIRE. Bird Study 11(3): 168-182, 4 figs. Sept. 1964. WR 116: 49

[Marine Lab., Aberdeen, Scotland.] In 10,000 miles of travel on a 7-mile section of road, 1279 birds of 47 spp. were found dead, presumably killed by automobile traffic. In an attempt to determine proportion of a given population killed by automobile traffic, 402 nestlings were banded along the study route. Of the marked nestlings 11% of the song thrushes (Turdus ericetorum), 12% of blackbirds (Turdus merula), 3% of linnets (Carduelis cannabina) and 4% of house sparrows (Passer domesticus) were found dead on the road. More than 25 references are cited.

Golenishchev, N. N. [DESTRUCTIVE ACTIVITY OF SOME BIRD SPECIES IN THE VELIKOLUKSK REGION AND PSKOV DISTRICT.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 98-99. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 5I228. Transl. of Russian abstr.] WR 116: 49

Golovanova, E. N. [APPLICATION OF MONOFLUORACETIC ACID DERIVATIVES IN SPARROW CONTROL.] Byul. Vses. Nauchn.-Issled. Inst. Zashchity Rast. 5: 14-15. 1961. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1963, no. 5I226. Transl. of Russian abstr.] WR 116: 49

Neff, Johnson A. BANDED EVENING GROSBEAK STRIKES AIRPLANE. Bird-Banding 35(4): 265. Oct. 1964. WR 116: 49

[Denver Wildl. Res. Center, Denver, Colo.] The bird was flying approximately 6400 feet above the ground surface.

Post, Peter W. MANNER OF DEATH IN TWO ROUGH-WINGED SWALLOWS: A POST-MORTEM REPORT. Bird-Banding 35(4): 264. Oct. 1964. WR 116: 49

[575 West 183 St., New York, N. Y.] Of two Stelgidopteryx ruficollis found dead, one had a puncture in its pectoral region, suggesting that it had flown into a sharp object, and one had a congested lung, suggesting pneumonia.

BIRDS--ECONOMICS, CONTROL, MORTALITY--Continued

Robertson, C. J. R. OBSERVATIONS ON BLACK-BACKED GULL PREDATION AT THE CAPE KIDNAPPERS GANNETRIES: 1959-1963. Notornis 10: 393-403. [1964]. [From Bird-Banding 35(4), 1964.] WR 116: 50

Skokova, N. N. [A QUANTITATIVE STUDY OF THE DIET OF FISH-EATING BIRDS.] Ornitologiya (Moscow) 4: 288-296. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 6I222. Transl. of Russian abstr.] WR 116: 50

Voropanova, T. A. [SIGNIFICANCE OF WILD BIRDS OF THE VOLOGOD OBLAST IN FORESTRY AND AGRICULTURE (BENEFICIAL AND PEST BIRDS).] Uch. Zap. Vologodsk. Gos. Ped. Inst. 27: 211-218. 1961. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 7I247. Translation of Russian abstr.] WR 116: 50

The economic significance of birds is characterized in general. Information on diet is given for some birds (woodpeckers, orioles).

BIRDS--PARASITES AND DISEASES

Dubinin, V. B. [PARASITOLOGICAL DATA USED AS CRITERIA IN TAXONOMY OF BIRDS.] Uch. Zap. Mosk. Gos. Univ. 197: 241-259. 1958. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1959, no. 76116. Transl. of Russian abstr.] WR 116: 50

GAME BIRDS--GENERAL

Mace, R. U. PRINCIPLES OF UPLAND BIRD MANAGEMENT. Oreg. State Game Comm. Bull. 19(5): 3-7, illus. Sept.-Oct. 1964. WR 116: 50

[Oreg. State Game Comm., Portland.] A good sketch for the hunter on trends and principles of upland game bird management.

Molamusov, Kh. T. [THE BIOLOGY OF THE GALLINACEOUS BIRDS OF KABARDINO-BALKARIA.] Uch. Zap. Kabardino-Balkarsk. Univ. 12: 221-239. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 1I154. Transl. of Russian abstr.] WR 116: 50

Osmolovskaya, V. [MATERIAL ON THE NUMBER OF GAME BIRDS.] Okhota & Okhotnich'e Khoz. 7: 16-19. 1962. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1963, no. 4I166. Transl. of Russian abstr.] WR 116: 50

Vinogradov, V. V. [THE WINTERING OF GAME BIRDS ON THE AKHTEL' LAKES IN AZERBAIDZHAN.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 67-68. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I185. Transl. of Russian abstr.] WR 116: 50

QUAIL

Bergstrand, Jay L., and W. D. Klimstra. ECTOPARASITES OF THE BOBWHITE QUAIL IN SOUTHERN ILLINOIS. Am. Midland Nat. 72(2): 490-498, 2 figs. Oct. 1964. WR 116: 50

[Alaska Dept. Fish & Game, Box 2200, Star Route B, Anchorage.] Mallophaga were the chief ectoparasites, and adult mallophaga were found in all months. Ticks were found in all months, except Jan. and Feb., and feather mites were found in all months. Ectoparasites were most abundant in late summer and least abundant in mid-winter. No birds appeared to be adversely affected by ectoparasites.--From abstr.

Cookingham, R. A., and T. H. Ripley. SOME OBSERVATIONS ON THE RESPONSE OF AN INSULAR QUAIL POPULATION TO SUPPLEMENTAL FEEDING. Bird-Banding 35(4): 266-267. Oct. 1964. WR 116: 51

[Mass. Div. Fisheries & Game, Boston.] During 4 years of winter feeding, the population increased from 13 to 52 birds; in 3 years without winter feeding, the population declined from 65 to 46 birds.

Cookingham, R. A., and T. H. Ripley. VITAL CHARACTERISTICS OF AN INSULAR BOBWHITE POPULATION. J. Wildl. Mgmt. 28(4): 855-857, 1 fig. Oct. 1964. WR 116: 51

[Mass. Div. Fisheries & Game, Boston.] Abstract: Thirteen wild bobwhites (Colinus virginianus), survivors from 17 birds trapped on Cape Cod and liberated on Great Island in West Yarmouth, Massachusetts, in 1954, increased to a fall population level of 94 birds within two breeding seasons. The annual overwintering population increased sharply the first 2 years, then leveled off and stabilized between 5 and 7 years. Summer gains showed a marked inverse relation to level of the overwintering population. Overwintering mortality apparently remained constant, regardless of population density. Postnesting survival may have been the factor most closely associated with change in population density. No specific findings for sex and age composition appeared related to characteristics peculiar to an expanding population.

McMillan, Ian I. ANNUAL POPULATION CHANGES IN CALIFORNIA QUAIL. J. Wildl. Mgmt. 28(4): 702-711, 1 fig. Oct. 1964. WR 116: 51

[Shandon, Calif.] Abstract: A population of California quail (Lophortyx californicus) in San Luis Obispo County, California, was kept under study and management from 1946 to 1962. Observations and age ratios obtained during fall hunting have indicated wide fluctuation of reproductive success, age ratios varying from 6-81 percent young. In general, years of high rainfall correlated with high reproduction; dry winters were followed by reduced breeding. The key factor in reproductive rate was the drive to keep nesting and renesting throughout the summer, resulting presumably from a physiological preconditioning whose nature and origin is unknown. Reproductive drive was shown to be independent of environmental conditions during the actual nesting season, appearing to be related more to early breeding season weather conditions that control annual plant growth and production of quail food.

Pilla, Antonio Mario. ALCUNE OSSERVAZIONI SULLA DEPOSIZIONE DI UOVA NELLA QUAGLIA GIAPPONESE (COTURNIX C. JAPONICA). [SOME OBSERVATIONS ON EGG-LAYING BY COTURNIX (COTURNIX C. JAPONICA).] Ricerche Zool. Appl. alla Caccia 36: 3-14, 3 figs. 1962. In Italian with French, English and German summ. WR 116: 51

Russell, Kenneth R. QUAIL HUNTING -- QUAIL DECLINE? Ohio Conserv. Bull. 28(12): 14-15, 4 figs. Dec. 1964. WR 116: 51

[Ohio Div. Wildl., 1500 Dublin Road, Columbus.] There has been a marked decline in the Ohio bobwhite population since the hunting season was opened in 1959. There was no relationship between the rate of population decline and the per cent of range open to hunting. The population decline was not as fast in the hunted counties as in the unhunted counties.

Stanford, Jack. PRIMER ON BOB WHITE. PART II. Mo. Conserv. 25(9): 4-7, illus. Sept. 1964. WR 116: 51

[Mo. Conserv. Comm., Jefferson City.] Mentions some of the things farmers can do to increase quail production and points out that hunters must assume responsibility of providing the farmer with incentive if quail hunting is to be maintained or improved. [Part I was listed in WR 115: 44.]

Vince, M. A. SOCIAL FACILITATION OF HATCHING IN THE BOBWHITE QUAIL. Animal Behaviour 12(4): 531-534. Oct. 1964. WR 116: 52

[Univ. Cambridge, Cambridge, England.] Nine clutches of eggs hatched with no more than 6 hours between the earliest and latest chick to emerge from the shell, in spite of the fact that one egg in each clutch had been placed in the incubator 24 hours late. Analysis of the results suggests that the time of pipping appeared to be unaffected by the clutch and the greatest amount of acceleration was produced when the eggs first began to "click" but that the beginning of hatching was also brought forward in the delayed eggs.--From summ.

Vince, Margaret A. SYNCHRONIZATION OF HATCHING IN AMERICAN BOBWHITE QUAIL (COLINUS VIRGINIANUS). Nature 203(4950): 1192-1193, 1 fig. 12 Sept. 1964. WR 116: 52

[Univ. Cambridge, Cambridge, England.] "Results are consistent with the view that there is, in this species, a mechanism acting between eggs which tends to synchronize the embryos' development towards the time of hatching, by speeding up the retarded ones. The nature of this mechanism is under consideration."

PHEASANTS

Burger, George V. SURVIVAL OF RING-NECKED PHEASANTS RELEASED ON A WISCONSIN SHOOTING PRESERVE. J. Wildl. Mgmt. 28(4): 711-721, 1 fig. Oct. 1964. WR 116: 52

[Remington Farms, Chestertown, Md.] Abstract: Of 2,386 banded ring-necked pheasants (Phasianus colchicus) released under the gun and shot on a private, 1,942-acre shooting preserve in southeastern Wisconsin, 84 percent were bagged less than 1/4 mile and 95 percent less than 1 mile from their release sites. Preserve hunters harvested 50 percent of 5,441 pheasants stocked during 3 years. Each spring, about 6 percent of the releases apparently survived on the preserve, and 2 percent off the area, within 2 miles of the release sites. Of 93 birds bagged by outside hunters within 1.5 miles of the release area, 20 percent was preserve releases. In 3 years, 702 dead pheasants were found on the preserve. Length of time between release and death was fixed for 220 remains; 65 percent had died within 1 week of release. A calculated disappearance rate showed a total hunting loss, plus nonhunting losses of the first 2 weeks after release, of 83 percent. The rate of loss to nonhunting factors declined after 12 weeks to a stable biweekly rate which, if projected, resulted in a total annual loss of 54 percent. Of 226 known-cause deaths, release shock was blamed for 28 percent, shot wounds and predation for 29 and 42 percent, respectively. Feral cats (Felis domestica), Cooper's hawks (Accipiter cooperii), and foxes (Vulpes fulva and Urocyon cinereoargenteus) were major predators. Concentrations of newly released, pen-reared birds probably aggravated predation. Total nonhunting mortality was not fixed, but apparently was responsible, rather than egress, for the postrelease disappearance of most pheasants.

Evans, David. HOW MANY PHEASANTS? S. Dak. Conserv. Digest 31(5): 14-15, illus. Sept.-Oct. 1964. WR 116: 52

[S. Dak. Dept. Game, Fish & Parks, Pierre.] Trends in S. Dak. ring-necked pheasant populations are followed with 3 annual surveys: a spring breeding survey and a summer population survey (conducted by rural mail carriers), and a summer population survey (conducted by biologists).

Gates, John M. THE PHEASANT BOTTLENECK. Wis. Conserv. Bull. 29(5): 12-14, illus. Sept.-Oct. 1964. WR 116: 52

[Wis. Conserv. Dept., Madison.] Ring-necked pheasants in wetland habitats have a higher nesting success than those in other habitat types. Population levels in different parts of the state are correlated with the proportion of wetland habitat.

Harper, James A., and Ronald F. Labisky. THE INFLUENCE OF CALCIUM ON THE DISTRIBUTION OF PHEASANTS IN ILLINOIS. J. Wildl. Mgmt. 28(4): 722-731. Oct. 1964. WR 116: 53

[Oreg. State Game Comm., Corvallis.] Abstract: The role of deficient calcium as a factor limiting the distribution of pheasants (Phasianus colchicus) in Illinois was investigated by comparing the availability of calcium and its subsequent ingestion by wild pheasants on an area (Neoga) of old glacial till originating from the Illinois glacial age and on an area (Sibley) of more recent till originating from the Wisconsin glacial age. The amount of calcitic grit, and the amount of calcium contained in the calcitic grit, collected from roads and agricultural fields on both areas were similar, as were the amounts of calcium found in the soils from the two areas. The amounts of calcium found in the grit from gizzards of hens and young from both areas were very similar. The number and hatchability of eggs per incubated clutch, the production of chicks per hen, and the ash content of femora and of entire carcasses of hens during the nesting season were similar among pheasants at both Neoga and Sibley. Wild pheasants, particularly hens and young, seemingly possess the ability to select (1) calcareous grit from noncalcareous grit, (2) calcitic grit from dolomitic grit, and (3) calcitic grit with a high calcium content from that with a low calcium content; this habit of selective calcium ingestion may allow pheasants to prosper on areas where calcareous grit is found only in relatively small quantities. The availability of calcium and its subsequent ingestion by pheasants at Neoga, an area of old glacial till, are apparently adequate for the establishment of self-maintaining pheasant populations.

Kolesnikov, A. [PHEASANTS IN THE DNEPROPETROVSK OBLAST.] Okhota & Okhotnich'e Khoz. 6: 29-31. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11180. Transl. of Russian abstr.] WR 116: 53

Labisky, Ronald F., James A. Harper, and Frederick Greeley. INFLUENCE OF LAND USE, CALCIUM, AND WEATHER ON THE DISTRIBUTION AND ABUNDANCE OF PHEASANTS IN ILLINOIS. Ill. Nat. Hist. Surv., Biol. Notes no. 51. 19 p., 7 figs. Dec. 1964. WR 116: 53

[Ill. Nat. Hist. Surv., Urbana.] Distribution and abundance of ring-necked pheasants in Ill. is related to proportions of land in hay and grain crops and seemingly not to calcium content of the soil. Unfavorable weather (excessively cold winters and wet or dry nesting seasons) also appears to be related to pheasant numbers and distribution.

Mallette, Robert D., and Harold T. Harper. POPULATION STUDIES OF RING-NECKED PHEASANTS IN CALIFORNIA. Calif. Fish & Game 50(4): 292-304, 2 figs. Oct. 1964. WR 116: 53

[2345 Ramon Drive, Sacramento, Calif.] Mortality rate of captive-reared birds was 95-99% in the first year of life; mortality rate after the first was about the same for captive- and wild-reared birds. The mean annual mortality for a wild-reared population of both sexes banded as both juveniles and adults was 73%. Calculations indicated that a defined population annually fluctuated from a low of 12,000 birds in the breeding season to a high of 39,000 after the breeding season. On an area with heavy hunting, survival through the hunting season was estimated at 23%; hunting kill, 28%; non-hunting loss, 49%. On another area the estimates were as follows: survival, 17%; hunting kill, 40%; non-hunting loss, 43%.

Pekić, B. [NATURAL FEEDING OF PHEASANTS AND ITS APPLICATION TO THEIR ARTIFICIAL BREEDING.] Biol. Inst. Beograda, Monog. 10: 1-58. 1962. [From Ibis 106(4), 1964. In Serbo-Croatian with English summ.] WR 116: 53

Swope, Harold M. AN UPLAND GAME BIRD HARVEST QUESTIONNAIRE SYNOPSIS WITH SPECIAL EMPHASIS ON THE LEGAL SHOOTING OF HEN PHEASANTS. Colo. Dept. Game, Fish & Parks, Spec. Rept. no. 2. [i] + 44 p. July 1964. WR 116: 54

[P. O. Box 513, Fort Collins, Colo.] Experiences with hen harvest of several spp. of upland game birds are presented based on questionnaire replies from 55 state and province conservation departments. Opinions differed as to the feasibility of harvesting hen ring-necked pheasants, but at least some harvest of hens appeared to be favored in most states and provinces where research had been conducted on the question. Hunting regulations of the various states and provinces, numbers of pheasants stocked, percent harvested of stocked pheasants, average cost of stocked pheasants, number of licensed hunters, area of pheasant range open to hunting, methods for obtaining population indices, number of hens legally harvested, and chief problems in pheasant management are tabulated.

Wright, Vernon, and Paul Otte. A CENTRAL IOWA PHEASANT NESTING STUDY, 1961. Proc. Iowa Acad. Sci. 69: 252-259, illus. 1962 (1963). [From Biol. Abstr. 45(2), 1964.] WR 116: 54

[Iowa State Univ., Ames.] A study of nesting success of pheasants (Phasianus colchicus) on three areas in central Iowa in 1961 showed that the peak of nest establishment occurred between May 16 and May 30. Hatching success varied inversely with pheasant population density. Twenty-four of the 96 nests found hatched successfully. Roadsides sheltered the highest percentage of nests on a per acre basis (46 nests/100 acres), followed by hayfields (24 nests/100 acres) and oatfields (4.7 nests/100 acres). Idle land and fence rows contained the fewest number of nests. Most nests were located in cover from 16 to 22 inches in height. No significant relationship was found between the height and/or density of cover and the success of the nests. Farm machinery operations, especially hay mowing, caused the greatest destruction of nests.--Authors.

GROUSE, PARTRIDGE, ETC.

Dahlgren, Robert B., Curtis M. Twedt, and F. Robert Henderson. LENS WEIGHTS OF SHARP-TAILED GROUSE. J. Wildl. Mgmt. 28(4): 853-854. Oct. 1964. WR 116: 54

[S. Dak. Dept. Game, Fish & Parks, Huron.] Abstract: Left eye lenses of sharp-tailed grouse (Pedioecetes phasianellus) bagged in South Dakota were oven-dried and weighed to determine variations between sexes and within age-classes. The mean difference in lens weight was highly significant for 162 juvenile males and 190 juvenile females, 51 adult males and 83 adult females, juvenile males and adult females, and all juveniles tested against all adults. Males had lens weights exceeding those of females; adults had lens weights exceeding those of juveniles. Although considerable overlap exists between lens weights of juveniles and adults, an adjustment can be applied to separate age-classes in a sample of unknown age. Apparently little, if any, increase in lens weight occurs after the first year.

Hamerstrom, F. N., Jr., and O. E. Mattson. A NUMBERED, METAL COLOR-BAND FOR GAME BIRDS. J. Wildl. Mgmt. 28(4): 850-852, 1 fig. Oct. 1964. WR 116: 54

[Wis. Conserv. Dept., Plainfield.] Abstract: A color-band has been used with success on prairie chickens (Tympanuchus cupido) in Wisconsin since the winter of 1955-56. On a colored-aluminum blank band, size 7A, a number is stamped with a 0.25-inch die. The color is then routed out with a dentist's No. 3 round burr, resulting in a silvery number on a colored background. The band is used as part of a color combination, the rest of which (on the other leg) consists of a numbered, colored plastic band above an aluminum state-issued band the color of which is changed annually on a 5-year rotation. Sight recognition of the color combination alone tells the year and place of banding; the additional recognition of either number identifies the individual bird.

Hayes, Jim. GROUSE ARE WHERE YOU FIND THEM ... GROUSE HUNTING IN DEFINED COVERTS. Pa. Game News 35(10): 24-28, illus. Oct. 1964. WR 116: 55
Some suggestions on finding ruffed grouse.

Ivanter, E. V. [NOTES ON THE BIOLOGY OF THE HAZEL GROUSE IN KARELIA.] Ornitologiya (Moscow) 4: 87-98. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 10I204. Transl. of Russian abstr.] WR 116: 55

Kirpichev, S. P. [EXPERIENCE IN CATCHING, KEEPING, AND SHIPPING CAPERCAILLIE.] Ornitologiya (Moscow) 4: 385-388. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I153. Transl. of Russian abstr.] WR 116: 55

Kiselev, Yu. N. [THE SIGNIFICANCE OF SEXUAL DIMORPHISM IN SOME GROUSES.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 19-21. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 9I194. Transl. of Russian abstr.] WR 116: 55

Kobriger, Gerald. NORTH DAKOTA'S FIRST SAGE GROUSE SEASON. N. Dak. Outdoors 27(5): 8-11, illus. Nov. 1964. WR 116: 55
[1132 W. Villard, Dickinson, N. Dak.] In the fall of 1964, N. Dak. held its first recent open season on sage grouse. Probably fewer than 200 were bagged of an estimated population of 4000-5000 birds.

Lobko-Lobanovskii, M. I., and A. F. Zhilin. [THE REPRODUCTIVE BIOLOGY OF THE KAMCHATKA SIBERIAN CAPERCAILLIE.] Ornitologiya (Moscow) 5: 164-165. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I202. Transl. of Russian abstr.] WR 116: 55

Reinders, Victor A. PARTRIDGE AREN'T "SHOT OFF". Wis. Conserv. Bull. 29 (5): 3-4, illus. Sept.-Oct. 1964. WR 116: 55
[Univ. Wis., Milwaukee.] In 5 years of hunting, a ruffed grouse hunter recorded numbers of birds observed and bagged and length of time spent hunting. Of all birds seen when hunting in the 5 years, 37% were bagged. The number of grouse flushed per day decreased little as the season advanced.

Vitovich, V. [THE TRANSKAVKAZIAN FRANCOLINUS FRANCOLINUS.] Okhota & Okhotnich'e Khoz. 12: 17. 1958. [From Biol. Abstr. 45(8), 1964, from Referat. Zhur., Biol., 1959, no 67550. Transl. of Russian abstr.] WR 116: 55

Weeden, Robert B. SPATIAL SEPARATION OF SEXES IN ROCK AND WILLOW PTARMIGAN IN WINTER. Auk 81(4): 534-541. Oct. 1964. WR 116: 55
[Alaska Dept. Fish & Game, Fairbanks.] Among willow ptarmigan (Lagopus lagopus) and rock ptarmigan (L. mutus), there was a partial separation of the sexes in Oct. and Nov. Many of the ♀♀ moved into boreal forest from their alpine nesting haunts; most ♂♂ remained throughout the winter in the alpine area.

Yurgenson, P. [THE PROBLEM OF THE STUDY OF VARIATIONS IN THE NUMBER OF HAZEL-GROUSE.] In: (Ecology and migration of birds of the Baltic region.) Akad. Nauk Latviisk. SSR (Riga). p. 91-96. 1961. [From Biol. Abstr. 45 (6), 1964, from Referat. Zhur., Biol., 1963, no. 1I161. Transl. of Russian abstr.] WR 116: 55

Zverev, M. D. [THE ECOLOGY OF THE TYAN'-SHAN' BLACK GROUSE (IN THE ZAILIISK ALATAU RANGE).] Ornitologiya (Moscow) 5: 208-210. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 10I210. Transl. of Russian abstr.] WR 116: 55

TURKEY

Thomas, Jack Ward. DIAGNOSED DISEASES AND PARASITISM IN RIO GRANDE WILD TURKEYS. Wilson Bull. 76(3): 292. Sept. 1964. WR 116: 56

[Texas Parks & Wildl. Dept., Llano.] Among 330 wild turkeys (Meleagris gallopavo intermedia) trapped, 3 sick individuals were found. The following organisms were found, each in one bird: scaly leg mite (Knemidocoptes mutans), enterohepatitis (Histomonas meleagridis), and fowl pox (Borreliota sp.).

DOVES AND PIGEONS

Caldwell, Larry D. DOVE PRODUCTION AND NEST SITE SELECTION IN SOUTHERN MICHIGAN. J. Wildl. Mgmt. 28(4): 732-738, 2 figs. Oct. 1964. WR 116: 56

[Central Mich. Univ., Mt. Pleasant.] Abstract: Mourning dove (Zenaidura macroura) nesting was studied on two sites in Michigan, 514 and 32 acres. Vegetation available for nest sites was measured quantitatively and its use by doves analyzed. Doves exhibited a definite site preference for certain tree species like red pine (Pinus resinosa) and Norway spruce (Picea abies), and habitat types such as the conifer and medium shrub categories; however, white pine (Pinus strobus) and Scotch pine (P. sylvestris) were not used. Habitat type did not seem to affect nesting success. Forty-one pairs nested on the larger area and four pairs on the smaller area. Four marked pairs renested with their original mates. Out of 164 attempted nestings on both areas, there were 58 (35 percent) successful nestings. The percentage of successful nests varied little between the areas, being 36 percent on the larger and 33 percent on the smaller property. A marked difference, however, was exhibited between relative percentages of eggs hatched (70 percent on the larger area, 35 percent on the smaller) and nestlings fledged (46 percent and 83 percent, respectively). The number of young fledged per adult pair was estimated to be 2.2 on the larger nest-trapped area and 2.5 on the smaller untrapped area. These figures are lower than the average dove production rates recorded in the literature and are sufficient to replace population losses only if the annual turnover is as low as 53 percent.

Goodwin, Derek. SOME CALLS AND DISPLAYS OF THE PICAZURO PIGEON. Condor 66 (5): 418-422, 1 fig. Sept. 1964. WR 116: 56

[British Museum Nat. Hist., London, England.] Some calls and displays of captive Picazuro pigeons (Columba picazuro) are described and compared with those of other pigeons.

Klinghammer, Erich, and Eckhard H. Hess. PARENTAL FEEDING IN RING DOVES (STREPTOPELIA ROSEOGRISEA): INNATE OR LEARNED? Z. für Tierpsychol. 21(3): 338-347. 1964. [From Bird-Banding 35(4), 1964. In English with German summ.] WR 116: 56

WATERFOWL

Anderton, John. THE WILDFOWLERS' ASSOCIATION OF GREAT BRITAIN AND IRELAND. SHOOTING/PROTECTION/CONSERVATION, Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 199-203. 1964. In English with French summ. WR 116: 56

[1-3 Harrington St., Liverpool 2, England.] The Wildfowlers' Association of Great Britain and Ireland was organized in 1908, but it experienced relatively little growth before the mid-twentieth century. In recent years it has made great growth in membership, financial wealth, educational influence, and application of conservation knowledge.

Atkinson-Willes, G. L. THE WILDFOWL SITUATION IN ENGLAND, SCOTLAND AND WALES. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 25-29. 1964. In English with French summ. WR 116: 57

[Wildfowl Trust, Slimbridge, Gloucestershire, England.] Complete censuses have been made of mute swan (Cygnus olor), Bewick's swan (Cygnus bewickii), whooper swan (Cygnus cygnus), pink-footed goose (Anser brachyrhynchus), grey lag goose (Anser anser), white-fronted goose (Anser albifrons), barnacle goose (Branta leucopsis), brant goose (Branta bernicla) and Canada goose (Branta canadensis). Indices of population trends are available for the following: mallard (Anas platyrhynchos), teal (Anas crecca), wigeon (Anas penelope), pochard (Aythya ferina) and tufted duck (Aythya fuligula). There is no evidence of population decline in recent years among any of the waterfowl listed.--From summ.

Ballou, Robert M., and Fant W. Martin. RIGID PLASTIC COLLARS FOR MARKING GEESE. J. Wildl. Mgmt. 28(4): 846-847, 1 fig. Oct. 1964. WR 116: 57

[Bur. Sport Fisheries & Wildl., Washington, D. C.] Abstract: Rigid plastic collars of one to three colors proved useful for recognition of individual Canada geese (Branta canadensis). The collars did not seem to affect the behavior of the geese, and there was little mortality caused by their use. In good light, bright colors are visible through a 20-power spotting scope for more than 1 mile. Retention of collars was about 90 percent for 1 year and more than 80 percent for 2 years.

Bartonek, James C., and Charles W. Dane. NUMBERED NASAL DISCS FOR WATERFOWL. J. Wildl. Mgmt. 28(4): 688-692, 2 figs. Oct. 1964. WR 116: 57

[Univ. Wis., Madison.] Abstract: Numbered nasal discs were successfully used in studies requiring large numbers of individually marked waterfowl. The procedure for constructing these discs is outlined. Blue-winged teal (Anas discors) with 5/8-inch discs, and canvasback (Aythya valisineria) and redhead (A. americana) with 3/4-inch discs can be individually identified up to 50 and 80 yards, respectively, with a gunstock-mounted, 20-power spotting scope. The particular value of these markers is their durability, the number of combinations possible, and the apparent absence of behavioral or mortality influence among such species as the blue-winged teal.

Bednarik, Karl E. YOU CAN'T DUCK FACTS. Ohio Conserv. Bull. 28(9): 8-9, 30-31, illus. Sept. 1964. WR 116: 57

A summary of trends in North American waterfowl populations since the early 1930's.

Bellrose, Frank C., Kenneth L. Johnson, and T. Udell Meyers. RELATIVE VALUE OF NATURAL CAVITIES AND NESTING HOUSES FOR WOOD DUCKS. J. Wildl. Mgmt. 28(4): 661-676. Oct. 1964. WR 116: 57

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Low occupancy of nest houses by wood ducks (Aix sponsa) does not necessarily indicate an abundance of nest sites in natural cavities, but rather either a low breeding population or nest houses improperly constructed or placed. A low breeding population may be caused by high nest losses to predators, shortcomings in the breeding habitat, or shooting losses. Nest houses which afford superior protection from predators increase numbers of wood ducks, even in habitats with abundant natural cavities. On Quiver Creek in central Illinois, utilization of predator-proof nest houses increased the breeding population of wood ducks from 10-15 pairs to over 90 pairs. Cylindrical metal houses afford greater protection than board houses, but are widely acceptable only when (1) there is a high density of breeding wood ducks, (2) the breeding population is expanding, or (3) a local population is conditioned to nesting in houses. After initial use of metal houses by wood ducks, high nesting success is usually followed by increased usage as homing adults and yearlings swell the local breeding population. Adult wood duck hens usually return to the nesting areas where they last bred successfully. A large proportion of yearling hens return to their former rearing areas. Yearling hens nest later than older hens, and, by observing specific nesting areas and

sites used by adults, are influenced to nest nearby and in similar accommodations. The homing of females to a specific nesting area emphasizes the advantage of grouping nest houses in units. Houses should be spaced according to habitat and potential breeding population: two to three per acre in high-quality habitat are recommended.

Blondel, J. SITUATION DE LA SAUVAGINE DANS LE MAGHREB. [THE WILDFOWL SITUATION IN NORTH-WEST AFRICA.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 65-67. 1964. In French with English summ. WR 116: 58

[Station Biologique de la Tour du Valat, Le Sambuc, France.] "There are no numerical data on migrating and wintering populations.... The nesting, migrating and wintering populations must soon be counted so that the few remaining wetlands capable of sustaining the already precarious populations can be protected."--From summ.

Burton, P. J. K., and H. Boyd. THE PRESENT STATUS OF THE BRENT GOOSE IN EUROPE. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 73-75. 1964. In English with French summ. WR 116: 58

[Wildfowl Trust, Slimbridge, Gloucestershire, England.] Numbers of brant geese (Branta bernicla) have gradually increased in the past nine years, and there may have been a total of 24,000 birds in Nov. 1963.--From summ.

Chupp, Norman R., and Paul D. Dalke. WATERFOWL MORTALITY IN THE COEUR D'ALENE RIVER VALLEY, IDAHO. J. Wildl. Mgmt. 28(4): 692-702. Oct. 1964. WR 116: 58

[Bur. Sport Fisheries & Wildl., Spokane, Wash.] Abstract: Waterfowl mortality in the Coeur d'Alene River Valley has aroused public concern since the early 1900's. An investigation and evaluation of the valley as waterfowl habitat was begun in 1954. Information from this and subsequent studies leaves little doubt that contamination of the Coeur d'Alene River Valley by mine wastes from the Coeur d'Alene mining area is the prime cause of the bird losses. Analyses of numerous soil, plant, and waterfowl specimens collected in the valley showed abnormally high concentrations of lead, zinc, and copper. The toxic effects of the assimilated mine wastes, coupled with environmental stress in the winter and early spring, are apparently sufficient to produce the mortalities noted. Management considerations associated with alleviating the problem of bird losses in the Coeur d'Alene River Valley are discussed briefly.

Crissey, Walter F. EXPLOITATION OF MIGRATORY WATERFOWL POPULATIONS IN NORTH AMERICA. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 105-122, 4 figs. 1964. In English with French summ. WR 116: 58

[Migratory Bird Populations Sta., Laurel, Md.] A synoptic account of government administration of waterfowl in USA.

Curry-Lindahl, K. PRELIMINARY REPORT OF A CENSUS OF THE LONG-TAILED DUCK (CLANGULA HYEMALIS) IN SWEDISH MARINE WATERS DURING THE WINTER 1961-62. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 69-71. 1964. In English with French summ. WR 116: 58

[Nordiska Museet & Skansen, Stockholm, Sweden.] It was estimated that there were at least 25,000 long-tailed ducks or oldsquaws in Swedish waters at one time. Little is known about the winter movements of this bird in the region, however, and the population estimate is thus highly speculative.--From summ.

Curry-Lindahl, K. THE SITUATION OF DUCKS, GEESE AND SWANS IN NORWAY, SWEDEN AND FINLAND. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 3-13, 2 figs. 1964. In English with French summ. WR 116: 58

[Nordiska Museet & Skansen, Stockholm, Sweden.] The breeding population of waterfowl in Norway, Sweden and Finland is much below the carrying capacity of

the habitat. Hunting is the chief cause of mortality of waterfowl, and it appears that hunting pressure prevents these birds from building up populations to the carrying capacity of the habitat.--From summ.

Daniel, M. J. CORROSIVE ACTION OF THERMAL WATER ON THE WEBBING OF WATERBIRDS IN LAKES AROUND ROTORUA [NEW ZEALAND]. Notornis 10: 386-392. [1964.] [From Bird-Banding 35(4), 1964.] WR 116: 59

Danilov, N. N. [PAST AND PRESENT DISTRIBUTION OF CYGNUS MUSICUS IN THE URALS.] Ornitologiya (Moscow) 5: 281-283. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 9I188. Transl. of Russian abstr.] WR 116: 59

de Coniac, M. LES CHASSEURS ET LA CONSERVATION DE LA NATURE. [COOPERATION BETWEEN HUNTERS AND NATURE CONSERVATIONISTS IN FRANCE.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 189-192. 1964. In French with English summ. WR 116: 59
[Conseil Supérieur de la Chasse, Paris, France.] Hunters in France contribute toward conservation effort chiefly by favoring restrictions on open seasons, hunting methods, and creation of refuges.--From summ.

Denisova, N. V., A. A. Kaletskii, S. V. Romanov, and S. P. Chunikhin. [CYGNUS ATRATUS ON MOSCOW BODIES OF WATER.] Ornitologiya (Moscow) 5: 286-289. 1963. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 9I190. Transl. of Russian abstr.] WR 116: 59

de Vos, Antoon, and Albert E. Allin. WINTER MORTALITY AMONG RED-NECKED GREBES (COLYMBUS GRISEGENA) IN ONTARIO. Canadian Field-Nat. 78(2): 67-69. Apr.-June 1964. WR 116: 59
[Federated Colleges, Guelph, Ontario, Canada.] During Feb.-Mar. 1963, there were many reports of red-necked grebes being found stranded, either dead or alive, in unlikely places on land in Ontario. These observations are possibly correlated with the fact that the Great Lakes were largely ice-covered.

Dimmick, Ralph W., and W. D. Klimstra. CONTROLLED DUCK HUNTING IN ILLINOIS. J. Wildl. Mgmt. 28(4): 676-688, 6 figs. Oct. 1964. WR 116: 59
[Univ. Wyo., Laramie.] Abstract: Data for 1957, 1958, and 1959 on two types of controlled duck-hunting areas operated by the Illinois Department of Conservation relate the amount of hunting provided to the costs of operation. The permit system required preregistration and a permit to hunt in blinds constructed by state employees; the marked-blind-site system allowed hunters to build blinds and retain daily priority at sites marked before the hunting season. Total hunter utilization and annual hunting pressures were significantly greater on the latter areas than on the former. The permit system distributed hunting opportunity more equally to sportsmen living throughout the state by allowing advance registration for blinds. On the basis of man-days of hunting per unit area, the system of marked-blind-sites showed a more efficient use of space than did the permit system. Total waterfowl kill was higher on the marked-blind-site areas than on the permit areas, although average daily bag was lower. Higher bag averages on permit areas were attributed to lower hunting pressure and to the influence of adjacent private clubs which provided feeding and resting areas to hold waterfowl in the vicinity. Costs to the state were significantly greater on areas operated by the permit system, averaging $4.26 per man-day of hunting in 1957, $3.30 in 1958, and $11.66 in 1959; costs on the marked-blind-site areas averaged $.59, $.75, and $1.74 per man for the respective years.

Enyeart, George. DUCKS USE GOOSE NESTING PLATFORMS. N. Dak. Outdoors 27 (5): 1, illus. Nov. 1964. WR 116: 60

[Box 736, Riverdale, N. Dak.] Hay bales were mounted on posts to test their acceptance as nesting platforms for Canada geese. None of the platforms formed by the bales were used by geese, but 20 of the 30 were used by mallards. Preference was shown for platforms level on top and mounted on islands or over water.

Esping, Lars-Erik. ADVERSE AND BENEFICIAL DEVELOPMENTS AFFECTING WILDFOWL IN SCANDINAVIA. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 237-241, 1 fig. 1964. In English with French summ. WR 116: 60

[Statens Naturvårdsnämnd, Solna, Sweden.] "One can summarise the development thus, that in the last century through unsuccessful reclamation more good wildfowl habitats were formed than were lost, in other words a beneficial development. In the period from 1920-60 we had an adverse development, when more good localities were lost than new ones formed. It now looks as if this adverse development, in any case for a while, is at a standstill."

Etienne, Ariane, and Helga Fischer. UNTERSUCHUNG ÜBER DAS VERHALTEN KASTRIERTER STOCKENTEN (ANAS PLATYRHYNCHOS L.) UND DESSEN BEEINFLUSSING DURCH TESTOSTERON. [STUDIES ON THE BEHAVIOR OF CASTRATED MALLARDS AND THE INFLUENCE ON THEM OF TESTOSTERONE.] Z. für Tierpsychol. 21(3): 348-358. 1964. [From Bird-Banding 35(4), 1964. In German with English summ.] WR 116: 60

Eygenraam, J. A. THE WILDFOWL SITUATION IN NORTH-WEST EUROPE. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 21-23. 1964. In English with French summ. WR 116: 60

[Inst. Biol. Field Res. (ITBON), Arnhem, Netherlands.] No indication of decline in waterfowl populations was noted during the past 10 years.--From summ.

Eygenraam, J. A., and W. J. Doude van Troostwijk. ANALYSIS OF THE CATCHES OF DUTCH DUCK DECOYS. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 77-86, 8 figs. 1964. In English with French summ. WR 116: 60

[Inst. Biol. Field Res. (ITBON), Arnhem, Netherlands.] Approximately 28,500 ducks, in addition to mallards (Anas platyrhynchos), are annually taken in Dutch duck decoys. Bag records from duck decoy stations indicate that mallard populations have increased in recent years, wigeon (Anas penelope) have decreased, shoveler (Spatula clypeata) and pintail (Anas acuta) have remained unchanged.--From summ.

Ferrigno, Fred. THE BLACK DUCK / BREAD AND BUTTER DUCK OF THE NORTHEAST. N. J. Outdoors 15(4): 6-19, illus. Oct. 1964. WR 116: 60

[Div. Fish & Game, Trenton, N. J.] An excellent popular article on the importance and management of the black duck in N. J. and the northeastern U. S. The effects on population trends of hunting, disease, muskrat trapping, and habitat decline are discussed. The author expresses a personal belief that the present system of management gives too much attention to flyway-wide conditions and too little attention to smaller area units.

Goethe, Friedrich. THE WILDFOWL SITUATION IN GERMANY. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 15-20. 1964. In English with French summ. WR 116: 60

[Vogelwarte Helgoland, Helgoland, Germany.] Decline was not apparent in the population of any species of waterfowl during 1948-60, but populations of all were greatly reduced before that period. "Germany should have larger reserves where shooting is completely prohibited." Full protection of the oldsquaw (Clangula hyemalis) and the brant goose (Branta bernicla) is to be desired.--From summ.

Gottlieb, Gilbert. A NATURALISTIC STUDY OF IMPRINTING IN WOOD DUCKLINGS (AIX SPONSA). Am. Psychol. 17(6): 393. 1962. [From Biol. Abstr. 45(5), 1964.] WR 116: 61
[Dorothea Dix Hosp., Raleigh, N. C.]

Hartung, R. INGESTION OF OIL BY WATERFOWL. Papers Mich. Acad. Sci. 48: 49-55. 1963. [From Auk 81(4), 1964.] WR 116: 61

Heintzelman, Donald S., and Carole J. Newberry. SOME WATERFOWL DIVING TIMES. Wilson Bull. 76(3): 291. Sept. 1964. WR 116: 61
[629 Green St., Allentown, Pa.] Diving times are given for the following: horned grebe (Podiceps auritus), pied-billed grebe (Podilymbus podiceps), and ruddy duck (Oxyura jamaicensis).

Hoffmann, L. SITUATION DE LA SAUVAGINE DANS LES PAYS MÉDITERRANÉENS D'EUROPE. [THE WILDFOWL SITUATION IN MEDITERRANEAN EUROPE.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 59-64. 1964. In French with English summ. WR 116: 61
[Station Biologique de la Tour du Valat, Le Sambuc, France.] Waterfowl habitat in the Mediterranean region is little suitable for breeding and is used chiefly for wintering. About one million waterfowl winter in the region. Many Mediterranean wetlands are threatened with drainage and their waterfowl populations with overhunting.--From summ.

Hoffmann, L. WILDFOWL REFUGES IN EUROPE AND THE MEDITERRANEAN--PLANS AND NEEDS FOR IMPROVEMENT AND EXTENSION. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 161-168. 1964. In English with French summ. WR 116: 61
[Station Biologique de la Tour du Valat, Le Sambuc, France.] The Netherlands, Denmark, Germany, Great Britain and Sweden are the European countries with the best waterfowl refuges. These countries are closely followed in development of their refuge systems by Czechoslovakia, Hungary, Poland, and Yugoslavia. The Mediterranean countries, particularly Spain, Portugal, Italy, Greece, Tunisia, and Algeria, have no refuges or are now creating their first. In Camargue, France has one of the best refuges in Europe, but development of refuges is below the European average in the remainder of France.--From summ.

Hudec, K. THE PRESENT SITUATION OF WATERFOWL IN CZECHOSLOVAKIA AND THE FUTURE. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 35-38. 1964. In English with French summ. WR 116: 61
[Czechoslovakian Acad. Sci., Brno, Czechoslovakia.] Wetland areas were drained many years ago, and little waterfowl habitat exists in Czechoslovakia. Waterfowl habitat is provided chiefly by artificial ponds.--From summ.

Hudec, K. REMARKS ON HUNTING SEASONS OF WATERFOWL IN EUROPE. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 125-132, 19 figs. 1964. In English with French summ. WR 116: 61
[Czechoslovakian Acad. Sci., Brno.] Laws regulating harvest of waterfowl differ in the various European countries. "The laws are based not only on biological but often also historical principles; they do not invariably correspond to the biological requirements of the waterfowl."--From summ.

Hunt, Richard A. HUNTING HORICON HONKERS. Wis. Conserv. Bull. 29(5): 15-16, illus. Sept.-Oct. 1964. WR 116: 61
[Wis. Conserv. Dept., Horicon.] With 2,300 bagged of the 50,000 Canada geese on Horicon Marsh in 1954 and 7,000-12,000 of 100,000 annually bagged in recent years, the Canada goose population has increased under management. This article is an account of how the increase was attained.

Iavazzo, T. ITALIAN GAME LEGISLATION. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 133-135. 1964. In English with French summ. WR 116: 62
[Ministry Agr., Rome, Italy.] A synoptic account of waterfowl hunting regulations in Italy.

Jahnukainen, Miikka. ON THE SPRING MIGRATION OF THE WHOOPER SWAN (CYGNUS CYGNUS) IN THE HELSINKI REGION IN THE YEARS 1950-61. Ornis Fennica 40(1): 1-12. 1963. [From Biol. Abstr. 45(1), 1964.] WR 116: 62

Jouanin, Christian. L'AVENIR EN FRANCE DES BIOTOPES FAVORABLES À LA SAUVAGINE. [THE FUTURE OF WILDFOWL HABITAT IN FRANCE.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 217-225. 1964. In French with English summ. WR 116: 62
[Muséum National d'Histoire Naturelle, Paris, France.] Waterfowl habitat on the Atlantic Coast is being destroyed by development of large public works, recreational activities, and oyster culture. In inland areas the floodplains are threatened by construction of dikes and canals. In the Alps and Massif Central large hydroelectric dams have been built. These large dams appear to be of little value for waterfowl use. The many private ponds scattered over France and the small, shallow reservoirs being constructed throughout the country by the Electricité de France show promise of continuing to provide waterfowl habitat.--From summ.

Kaletskii, A. A., and N. F. Larionov. [UNDERWATER TROUGHS FOR AQUATIC BIRDS IN MOSCOW PONDS.] Ornitologiya (Moscow) 4: 325-327. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 5I231. Transl. of Russian abstr.] WR 116: 62

Kelnin, V. A. [FLIGHTS OF BEAN GEESE AND WHOOPER SWANS IN ESTONIA.] Ornitologiya (Moscow) 5: 333-336. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 9I157. Transl. of Russian abstr.] WR 116: 62

Kesteloot, E. RÉGLEMENTATION DE LA CHASSE ET APPLICATION DE LA LÉGISLATION. [HUNTING LEGISLATION AND ITS APPLICATION.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 139-158, 9 figs. 1964. In French with English summ. WR 116: 62
[Inst. Royal Sci. Nat. Belgium, Brussels, Belgium.] Different psychological factors play a part in the application of hunting legislation: the general mentality and particularly the mentality of the hunter, regional hunting traditions, etc. On the other hand the hunting legislation is out of date in many European countries. A revision based on ecological principles is indispensable. [Pages 142-158 include valuable discussion and maps which indicate how varied the regulations are in European countries.]--From summ.

Keve, A., and I. Sterbetz. TENTATIVE COUNTS OF GEESE AND DUCKS IN HUNGARY. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 39-43. 1964. In English with French summ. WR 116: 62
[Madartani Intezet, Budapest, Hungary.] Waterfowl numbers are much smaller than at the start of the twentieth century. Industrial development continues to reduce the amount of habitat available to waterfowl, and there have recently been major losses of waterfowl resulting from Salmonellosis. On the other hand, there has been marked recent increase in construction of ponds and in rice farming. Both activities are favorable to waterfowl.

Klose, H. THE INTERRELATIONSHIP ON A LEGAL BASIS BETWEEN HUNTING AND NATURE CONSERVATION IN THE FEDERAL REPUBLIC OF GERMANY. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 179-184. 1964. In English with French summ. WR 116: 62
[Bundesministerium für Ernährung, Landwirtschaft und Forsten, Bonn, Germany.] The aim of management is the preservation of a varied and healthy game population. This principle prevails over agricultural, forestry and fishery interests, but justifiable economic considerations required by land exploitation have priority over hunting and management interests.--From summ.

Kopischke, Earl D. UNUSUAL MORTALITY FOR DIVING DUCKS. J. Wildl. Mgmt. 28(4): 848-849. Oct. 1964. WR 116: 63

[Minn. Dept. Conserv., Madelia.] Abstract: Nearly 90 diving ducks were found dead in a drainage ditch below the outlet of a 29-inch drain tile. Laboratory examinations indicated that the ducks had drowned. Field investigation suggested that they had been drawn into an open 12-inch vertical tile intake that provided rapid drainage for a flooded field about 1.25 miles above the outlet. Puddle ducks reported also to have been seen in the area were not drawn into the tile.

Lebedeva, M. [GEESE WITH DUTCH BANDS.] Okhota & Okhotnich'e Khoz. 3: 20-21. 1963. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 20I240. Transl. of Russian abstr.] WR 116: 63

In recent years spring hunters have taken many white-fronted geese (Anser albifrons) banded in Holland in winter; in 1961 the banding center received 51 such bands and in 1962, 80. The number of these geese wintering in Holland is increasing: in 1956 it was estimated at 10,000 and in 1960 30,000 to 50,000.

Lippens, Léon. LES CHASSEURS ET LA PROTECTION DES OISEAUX. [HUNTERS AND BIRD PROTECTION.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 193-197. 1964. In French with English summ. WR 116: 63

[Knokke-Le Zoute, Belgium.] In all European countries agreement is being reached between hunters and conservationists leading to constructive collaboration.--From summ.

Makarov, V. V. [ON THE OVERWINTERING AND SPRING FLIGHT OF THE COMMON EIDER IN THE NECK OF THE WHITE SEA.] Ornitologiya (Moscow) 5: 28-30. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 9I158. Transl. of Russian abstr.] WR 116: 63

Martz, Gerald F. MIXED TRIO OF A SHOVELER DRAKE AND BLUE-WINGED TEAL PAIR. Wilson Bull. 76(3): 291-292. Sept. 1964. WR 116: 63

Describes behavior of a drake shoveller (Spatula clypeata) seemingly attempting to displace the male of a blue-winged teal (Anas discors) pair.

Matthews, G. V. T. A SUMMARY OF THE KNOWN EUROPEAN SITUATION, WITH SUGGESTIONS FOR FUTURE WORK. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 93-102. 1964. In English with French summ. WR 116: 63

[Wildfowl Trust, Slimbridge, Gloucestershire, England.] There are only about 30 waterfowl biologists in Europe, and little is known about conditions on the breeding grounds and some of the wintering grounds. Ducks appear to be maintaining their populations, with increases among at least six species. Among swans and geese, decline was suspected only among bean geese (Anser fabalis) and lesser white-fronted geese (Anser erythropus).

Mörzer Bruijns, M. F. ADVERSE AND BENEFICIAL DEVELOPMENTS AFFECTING WILDFOWL IN THE NETHERLANDS. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 227-236. 1964. In English with French summ. WR 116: 63

[State Inst. Nat. Conserv. Res., Laan van Beek en Royen 40, Zeist, Netherlands.] It is emphasized that most activities are not merely adverse or merely beneficial. Many activities are adverse in one respect, but sometimes even highly beneficial in another. Experience in the Netherlands shows that it is always worth while to exploit the beneficial possibilities as much and as soon as possible, and to make the most of it when and where adverse activities cannot be avoided.--From summ.

Moyle, John B., editor. WATERFOWL IN MINNESOTA. Minn. Dept. Conserv., Tech. Bull. no. 7. 210 p. Apr. 1964. Available from Minn. Dept. Conserv., St. Paul. Price $2.00. WR 116: 64

This fine introduction to waterfowl identification and management might properly be made required reading for Minn. waterfowl hunters. The first half of the booklet (p. 1-100) covers waterfowl generally, and the second half (p. 101-178) gives accounts of species occurring in Minn. In the appendix are sex ratios of waterfowl, instructions for making wood duck or goldeneye nesting boxes, data on kill of waterfowl in Minn. during 1919-58, waterfowl kill by flyways during the 1960 hunting season, duck stamp sales during 1934-62, and a summary of waterfowl regulations in Minn. during 1861-1963. With a bibliography of 146 items.

Nicholson, E. M. FUTURE LIAISON BETWEEN DIFFERENT COUNTRIES AND INTERESTS IN EUROPE WITH A VIEW TO CO-ORDINATING STUDY AND ACTION. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 269-272. 1964. In English with French summ. WR 116: 64

[13 Upper Cheyne Row, London, S.W.3, England.] A general review of the status of information and the integration of interests in waterfowl conservation.

Nicholson, E. M. PROBLEMS AND PROPOSALS FOR IMPROVED CO-OPERATION BETWEEN EUROPEAN COUNTRIES ON WILDFOWL CONSERVATION. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 171-176. 1964. In English with French summ. WR 116: 64

[13 Upper Cheyne Row, London, S.W.3, England.] "The object should be to ensure that European wildfowl problems and conservation problems are studied and handled, no longer exclusively on a national and fragmentary basis, but on a fully integrated European basis, with each country playing its appropriate part. Great advances have recently been made in assembling the necessary information and initiating the necessary action for this purpose; the time has come to bring the entire effort together, to fill in gaps and to see that it goes forward rapidly and smoothly, with a much wider basis of understanding and support."

Olennikov, N., and S. Skripin. [CARE OF WINTERING DUCKS IN THE SLADKO-LIMANSK HUNTING GROUNDS.] Okhota & Okhotnich'e Khoz. 11: 18-19. 1958. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1959, no. 58455. In Russian.] WR 116: 64

Olney, P. J. S. ADVERSE AND BENEFICIAL DEVELOPMENTS AFFECTING WILDFOWL IN GREAT BRITAIN. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 213-215. 1964. In English with French summ. WR 116: 64

[Wildfowl Trust, Slimbridge, Gloucestershire, England.] Four adverse and nine beneficial developments are listed.

Raitasuo, Kalevi. SOCIAL BEHAVIOUR OF THE MALLARD, ANAS PLATYRHYNCHOS, IN THE COURSE OF THE ANNUAL CYCLE. Papers on Game Res. (Helsinki) 24. 72 p., 15 figs. 1964. WR 116: 64

Based on 2000 hours of observation of mallard behavior in and around Helsinki. Display and pair behavior started in late Aug. and continued to early June, but most pairs were established in spring just before the start of the nesting season. Some birds of both sexes, but more ♂♂ than ♀♀, remained unpaired. Attempted rape by drakes resulted in considerable brood loss. Defensive attacks of ♀♀ against mallard broods other than their own was found to be the most important decimating factor among the population. Ducklings learn to recognize other ducklings of the same brood within three days, so that thereafter they no longer accept new members into the flock. Therefore ducklings separated from their own mother are generally doomed to perish, and mixed broods are very rare phenomena.

Roux, Francis. SITUATION DU GIBIER D'EAU (ANATIDES) EN FRANCE CONTINENTALE ET ATLANTIQUE EN 1963. [THE WILDFOWL SITUATION IN ATLANTIC AND INLAND FRANCE 1963.] Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 51-58. 1964. In French with English summ. WR 116: 65
[15 Rue Vezelay, Paris VIII, France.] "The lack of statistical data clearly illustrates the necessity for the creation in France of a State Wildfowl Research Organisation worthy of a sport practised by more than one million hunters."--From summ.

Ruttledge, R. F. THE WILDFOWL SITUATION IN IRELAND. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 31-34. 1964. In English with French summ. WR 116: 65
Mallard (Anas platyrhynchos) populations decreased slightly since 1936, but populations of other ducks increased. Grey lag geese (Anser anser) have decreased alarmingly and are now relatively scarce. Whooper swan populations have greatly increased to a state of abundance. Ireland is dependent on Iceland for its wintering duck population.--From summ.

Swanson, Gustav A. THE AMERICAN EXPERIENCE WITH INTERNATIONAL WILDLIFE CONFERENCES. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 253-261. 1964. In English with French summ. WR 116: 65
[Cornell Univ., Ithaca, N. Y.] A summary of development and accomplishments of the International Association of Game and Fish Commissioners and the North American Wildlife and Natural Resources Conference.

Swanson, G. A., and W. F. Crissey. AN OUTLINE OF WILDFOWL HUNTING REGULATIONS IN USA. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October, 1963. p. 137-138. 1964. In English with French summ. WR 116: 65
[Cornell Univ., Ithaca, N. Y.] Synoptic account of waterfowl hunting regulations in USA.

Swift, J. J., editor. PROCEEDINGS FIRST EUROPEAN MEETING ON WILDFOWL CONSERVATION / ST. ANDREWS, SCOTLAND, 16-18 OCTOBER, 1963. xxv + 289 p. 1964. 24 shillings, from Nature Conservancy, 19 Belgrave Square, London. WR 116: 65
All of the 37 papers presented at the meeting are individually cited in this issue of WR. Pages 273-285 of these proceedings cover recommendations for waterfowl administration derived at the meeting.

Szijj, Josef. ZEHN JAHRE ENTENVÖGELZÄHLUNG AM BODENSEE. [TEN YEAR WILDFOWL COUNTS OF LAKE CONSTANCE.] Vogelwarte 22(1): 1-17, illus. 1963. [From Biol. Abstr. 45(6), 1964. In German with English summ.] WR 116: 65
[Max-Planck Inst. Verhaltensphysiol., Starnberg, W. Germany.]

Talpeanu, Matei. ANSERIFORMES OF RUMANIA. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 45-49. 1964. In English with French summ. WR 116: 65
[Museum Nat. Hist., Bucharest, Romania.] An annotated list reporting the status of the 36 spp. of waterfowl known to occur in Romania.--From summ.

Thamdrup, H. M. RELATIONSHIP BETWEEN CONSERVATIONISTS AND SHOOTING INTERESTS IN SCANDINAVIA. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 205-210. 1964. In English with French summ. WR 116: 65
[Naturhistorisk Museum, Aarhus, Denmark.] Summary: In Scandinavia, divergences between hunters and conservationists have in the past considerably hindered co-operation. To a certain extent these differences have now been overcome through private organisations grouping both interests, and by official consultation between authorities concerned with hunting regulation and nature conservation. The biological approach is generally accepted by both groups as a basis for discussion.

Thompson, Daniel Q., and Marjory D. Lyons. FLOCK SIZE IN A SPRING CONCENTRATION OF WHISTLING SWANS. Wilson Bull. 76(3): 282-285, 1 fig. Sept. 1964. WR 116: 66

[Cornell Univ., Ithaca, N. Y.] Whistling swans (Olor columbianus) usually left the main flock of 1000 or returned to it in pairs, with groups of 3, 4, and 5 in declining order of frequency.

Toschi, A. COLLABORATION BETWEEN HUNTERS AND NATURE PROTECTIONISTS IN ITALY. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 185-187. 1964. In English with French summ. WR 116: 66

[Univ. Bologna, Bologna, Italy.] The historical and legal position of hunting and of game in Italy is not favorable to protection. Game belongs to the first person to take possession of it. The landowner cannot stop a hunter with a license from entering his land and killing game, even if he considers the animals useful and enjoyable, except by expensive fencing and constant surveillance. There are few possibilities for the individual who wishes to enjoy the peaceful sight of wild animals either on private or public land. The hunters are very numerous (about one million) and organized, while nature protectionists, also well organized, are much fewer in number. A great proportion of the public are not interested in the problem and think of game in the traditional way, as something destined to be hunted and eaten. The legislation is weighted in favor of the sport of hunting even when it is designed to protect game.--From summ.

Valyus, M. [REACCLIMATIZATION OF THE GRAY GOOSE ANSER ANSER L. IN THE ZHIVINTAS RESERVE.] Okhota & Okhotnich'e Khoz. 11: 26-27. 1959. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1960, no. 61171. In Russian.] WR 116: 66

van Maasdijk, I. G. PROPOSALS FOR INTERNATIONAL CO-OPERATION IN WILDFOWL CONSERVATION. Proc. First European Meeting Wildfowl Conserv., St. Andrews, Scotland, 16-18 October 1963. p. 263-267. 1964. In English with French summ. WR 116: 66

[Conseil International de la Chasse, The Hague, Netherlands.] A plea was made for coordination of conservation efforts of the various organizations interested in European waterfowl. It was suggested that the various countries should cooperate toward construction of maps indicating open and closed seasons, migratory status, and locations of areas occupied by most species of birds.

Winterbottom, J. M. REPORT ON THE WITWATERSRAND DUCK COUNTS, 1954-59 (AFRICAN WILDFOWL ENQUIRY PUBLICATION NO. 10). Ostrich 35(3): 188-201. Sept. 1964. WR 116: 66

[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.] Discussion of status of waterfowl in five areas, based on 557 separate counts.--From summ.

Wobus, Ulrich. DER ROTHALSTAUCHER (PODICEPS GRISEIGENA (BODDAERT)). [THE RED-NECKED GREBE.] Die Neue Brehm-Bücherei, A. Ziemsen Verlag. (Wittenberg). 103 p. 1964. [From Bird-Banding 35(4), 1964. In German.] WR 116: 66

Abstract: This is an excellent monograph on a species about which little has been published. After pointing out 11 differences in anatomy and behavior of grebes and loons, the author lists the 19 species of 4 genera of the Podicipediformes. The phases of the life history of the Red-necked Grebe are discussed in detail; comparisons are made with the behavior of other grebes and problems still to be investigated are pointed out. There are 52 illustrations in the book, both sketches and photographs, and a bibliography of five pages. This comprehensive history study can be warmly recommended.--M. M. Nice.

Yocom, Charles F. OF MEN AND GEESE. Pacific Discovery 17(2): 2-9, illus. Mar.-Apr. 1964. WR 116: 67
[Humboldt State Coll., Arcata, Calif.] This well-illustrated article is an account of the recent expansion of the breeding range of the Canada goose in northwestern U. S. Nine factors are cited as being related to this range expansion and population increase.

CRANES, RAILS, SHOREBIRDS

Beer, C. G. INCUBATION AND NEST-BUILDING BEHAVIOUR OF BLACK-HEADED GULLS. IV: NEST-BUILDING IN THE LAYING AND INCUBATION PERIODS. Behaviour 21(3/4): 155-176. 1963. [From Biol. Abstr. 45(3), 1964. In English with German summ.] WR 116: 67
[Univ. Otago Dept. Zool., Dunedin, New Zealand.]

Denisova, M. N. [DAILY ACTIVITY OF SOME SANDPIPERS IN THE NORTH.] Ornitologiya (Moscow) 4: 423-426. 1962. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 9I193. Transl. of Russian abstr.] WR 116: 67

Harris, M. P. RECOVERIES OF RINGED HERRING GULLS. Bird Study 11(3): 183-191, 5 figs. Sept. 1964. WR 116: 67
[Edward Grey Inst., Oxford, England.] Longevity, month of recovery, and movements of banded herring gulls (Larus argentatus) are discussed.

Harris, M. P. ASPECTS OF THE BREEDING BIOLOGY OF THE GULLS LARUS ARGENTATUS, L. FUSCUS AND L. MARINUS. Ibis 106(4): 432-456, 12 figs. Oct. 1964. WR 116: 67
[Edward Grey Inst., Oxford, England.]

Harris, M. P. THE INCIDENCE OF SOME SPECIES OF TREMATODA IN THREE SPECIES OF LARUS GULLS IN WALES. Ibis 106(4): 532-536. Oct. 1964. WR 116: 67
[Edward Grey Inst., Oxford, England.] A report of the proportion of herring gulls (Larus argentatus), lesser black-backed gulls (L. fuscus), and great black-backed gulls (L. marinus) found infested with trematode parasites. Includes lists of trematode species.

Hunt, G. L., Jr., and W. J. Smith. THE SWALLOWING OF FISH BY YOUNG HERRING GULLS LARUS ARGENTATUS. Ibis 106(4): 457-461, 2 figs. Oct. 1964. WR 116: 67
[Harvard Univ., Cambridge, Mass.] Experiments with 16 captive-reared herring gulls indicated that the birds swallowed fish head first by selecting the wider, thicker end.

Johns, J. E. TESTOSTERONE-INDUCED NUPTIAL FEATHERS IN PHALAROPES. Condor 66(6): 449-455 + 1 col. pl. Nov. 1964. WR 116: 67
[Eastern Wash. State Coll., Cheney.] Intramuscular injections of testosterone propionate stimulated growth of brilliant nuptial plumage on both males and females in both winter and juvenal plumages.--From summ.

Kishchinskii, A. A. [CONTEMPORARY BIRD FAUNA IN ESTUARIES OF THE NORTHEASTERN BLACK SEA REGIONS AND THE BIOLOGY OF GULLS NESTING THERE.] Okhrana Prirody & Ozelenenie 4: 69-75. 1960. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1963, no. 4I140. Transl. of Russian abstr.] WR 116: 67

Lind, Hans. THE REPRODUCTIVE BEHAVIOUR OF THE GULL-BILLED TERN, STERNA NILOTICA GMELIN. Vidensk. Medd. 125: 407-448, illus. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 67
[Zool. Lab., Univ. Copenhagen, Copenhagen, Denmark.]

Liscinsky, Steve. THE PENNSYLVANIA WOODCOCK STUDY. PART VI. HUNTING THE WOODCOCK. Pa. Game News 35(10): 14-17, illus. Oct. 1964. WR 116: 68

[Pa. Game Comm., Harrisburg.] This sixth and final article on the Pa. woodcock study is chiefly a discussion on the effect of hunting on local populations. Local populations were found to be reduced or even eliminated when the hunting season opened before migratory movements had started in mid-Oct. After a reduced local population had been restored by full protection, the breeding population and the number bagged remained stable at a relatively high level, with the season opening in mid-Oct. On a statewide basis, approximately 40% of the woodcock flushed are bagged.

Myrberget, Svein. VIPAS UTBREDELSE I NORGE. NORSK ORNITOLOGISK FORENINGS VIPEUNDERSØKELSE. [ON THE GEOGRAPHICAL DISTRIBUTION OF THE LAPWING, VANELLUS VANELLUS (L.) IN NORWAY.] Sterna (Stavanger Mus.) 5(1): 1-14, illus., maps. 1962. [From Biol. Abstr. 45(7), 1964. In Norwegian with English summ.] WR 116: 68

Naumov, R. L. [THE BIOLOGY OF LATHAM'S SNIPE (CAPELLA MEGALA) IN MIDDLE SIBERIA.] Ornitologiya (Moscow) 4: 160-168. 1962. [From Biol. Abstr. 45 (3), 1964, from Referat. Zhur., Biol., 1963, no. 6I216. Transl. of Russian abstr.] WR 116: 68

Nickell, Walter P. FATAL ENTANGLEMENTS OF HERRING GULLS (LARUS ARGENTATUS) AND COMMON TERNS (STERNA HIRUNDO) Auk 81(4): 555-556, 2 figs. Oct. 1964. WR 116: 68

[Cranbrook Inst. Sci., Bloomfield Hills, Mich.] Two dead herring gulls were found entangled in a large hound's-tongue weed (Cynoglossum officionale), and 10 dead common terns were found entangled in a six-foot-length of a fish line.

Perfil'ev, V. I. [NEW DATA ON THE ECOLOGY OF THE WHITE CRANE.] Bull. Moscow Obshch. Ispit. Prirody 68(1): 25-28, illus. 1963. [From Biol. Abstr. 45(6), 1964. In Russian.] WR 116: 68

Priklonskii, S. G. [DEVICE FOR REMOVING GRAY HERON NESTLINGS FROM THE NEST.] Trudy Oksk. Gos. Zapovednika 4: 435-436. 1962. [From Biol. Abstr. 45 (2), 1964, from Referat. Zhur., Biol., 1963, no. 6I168. Transl. of Russian abstr.] WR 116: 68

Vinokurov, A. A. [DATA ON THE BIOLOGY OF SOME CICONIIFORMES IN AZOV DELTAS.] Okhrana Prirody & Ozelenenie (Moscow) 4: 55-67. 1960. [From Biol. Abstr. 45(3), 1964, from Referat. Zhur., Biol., 1963, no. 6I220. Transl. of Russian abstr.] WR 116: 68

HAWKS AND OWLS

Bang, Betsy Garrett. THE NASAL ORGANS OF THE BLACK AND TURKEY VULTURES; A COMPARATIVE STUDY OF THE CATHARTID SPECIES CORAGYPS ATRATUS ATRATUS AND CATHARTES AURA SEPTENTRIONALIS (WITH NOTES ON CATHARTES AURA FALKLANDICA, PSEUDOGYPS BENGALENSIS, AND NEOPHRON PERCNOPTERUS). J. Morphol. 115(2): 153-183, 2 figs., 10 pls. Sept. 1964. WR 116: 68

[Johns Hopkins Univ., Baltimore, Md.] The nasal fossae and related structures of the black vulture and turkey vulture are described, illustrated, and compared. These in turn are compared with the antarctic subspecies of turkey vulture and with two divergent Old World scavenging vultures. The outstanding single variation is the enormous development of the olfactory organ of the turkey vulture. Its habits are reviewed especially in relation to this. The hunting habits of high altitude scavengers, and the functions of the air sacs, the nasal glands and the mucosae are discussed. Disease and overlap are briefly considered.--From summ.

Bell, Rondal E. A SOUND-TRIANGULATION METHOD FOR COUNTING BARRED OWLS. Wilson Bull. 76(3): 292-294, 1 fig. Sept. 1964. WR 116: 69
[Millsaps Coll., Jackson, Miss.] A sound-orientation instrument was made by mounting a microphone-equipped parabolic sound reflector on a tripod-mounted plane-table. Equipped with two of these instruments and radios, two observers plotted exact locations of barred owls (Strix varia) by simple triangulation.

Bel'skii, N. V. [THE COMMON KESTREL AND LONG-EARED OWL IN THE BOTANICAL GARDEN.] Ornitologiya (Moscow) 4: 316-324. 1962. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1963, no. 4I175. Transl. of Russian abstr.] WR 116: 69
A ten year study. The phenology of reproduction, the site location of the nests, size of eggs and clutches, a detailed description of the growth and development of the nestlings are given. In 8 kestrel nests 38 of 39 eggs hatched out, and 35 nestlings flew away. In 2 long-eared owl nests 7 of 11 eggs hatched out and 5 nestlings flew away. The higher nestling death rate in long-eared owl is explained by the narrower food specialization of the species as compared to the kestrel.

Brosset, A. LE COMPORTEMENT DE LA BUSE GALAPAGOS BUTEO GALAPAGOENSIS. [BEHAVIOR OF THE GALAPAGOS HAWK, BUTEO GALAPAGOENSIS.] Alauda 31(1): 5-21. 1963. [From Biol. Abstr. 45(2), 1964. In French.] WR 116: 69
This sp., probably descended from B. swainsoni, follows hunters to scavenge on the remains of goats. The sp. lacks a territory but is widely distributed among the islands. The numbers are relatively constant on each island.--D. E. Davis.

Fox, Glen A. NOTES ON THE WESTERN RACE OF THE PIGEON HAWK. Blue Jay 22 (4): 140-147, 3 figs. Dec. 1964. WR 116: 69
[Regina, Saskatchewan, Canada.] Observations on biology and behavior of Falco columbarius richardsonii. Some observations involve captive birds.

Heflin, Arlene S. THE BALD EAGLE -- OUR NATIONAL BIRD. Redstart 31(3): 62-67. July 1964. WR 116: 69
An account covering selection of the bald eagle as the U. S. national emblem, recent trends in population numbers, current research, and efforts aimed at the preservation of this species.

Ivanov, F. V. [BUZZARDS IN THE OKSK FOREST PRESERVE.] Trudy Oksk. Gos. Zapovednika 4: 251-269. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 8I172. Transl. of Russian abstr.] WR 116: 69
According to data of counts along a route taken from 1954-1959 (an average of 0.28 specimens per 10 km) and according to the number of occupied nests found (20.9% of the number of nests of all predators) buzzard (Buteo buteo) occupies the 2nd place after kite (Milvus milvus).

Labutin, Yu. V. [DATA ON THE ECOLOGY OF THE EAGLE IN THE DEPRESSIONS OF THE MOUNTAIN RIDGES OF THE YANA BASIN.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk.Univ. (L'vov) 2: 67-68. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1962, no. 9I168. Transl. of Russian abstr.] WR 116: 69

Millar, John B. MARSH HAWK ATTEMPTS TO SALVAGE A DEAD COOT. Blue Jay 22 (4): 148. Dec. 1964. WR 116: 69
A female marsh hawk unsuccessfully attempted to carry an American coot carcass.

Murray, Bertram G., Jr. A REVIEW OF SHARP-SHINNED HAWK MIGRATION ALONG THE NORTHEASTERN COAST OF THE UNITED STATES. Wilson Bull. 76(3): 257-264, 3 figs. Sept. 1964. WR 116: 70

[Univ. Mich., Ann Arbor.] Summary: The published evidence on the migration of the Sharp-shinned Hawk along the coast of the northeastern United States is reviewed and is shown not to support the hypothesis that the hawks (1) normally migrate inland, (2) are drifted to the coast by the wind, and (3) continue along the coast. An alternative hypothesis, which is supported by the evidence, is presented: the hawks normally migrate on a broad front in a generally southwestward direction over the northeastern United States at an altitude that makes observation difficult, and the observed "concentrations" or "flights" are manifestations of the diversion-line phenomenon.

Nazarenko, L. F., E. V. Nikishin, M. F. Popova, and M. I. Lobanovskii. [ON THE DECREASE OF DIURNAL PREDATORS IN THE NORTHWESTERN BLACK SEA REGION AND THEIR PRESERVATION.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 109-110. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 9I165. Transl. of Russian abstr.] WR 116: 70

Olsson, Viking. BERGUV OCH HAVSÖRN I FARA. [DANGER THREATENS THE EAGLE OWL (BUBO BUBO) AND THE WHITE-TAILED EAGLE (HALIAËTUS ALBICILLA) IN SWEDEN.] Sveriges Natur 6: 177-184. 1963. [From Bird-Banding 35(4), 1964. In Swedish.] WR 116: 70

Peterson, Clell T. BALD EAGLES IN KENTUCKY WOODLANDS. Ky. Warbler 40(4): 59-63. Nov. 1964. WR 116: 70

[Murray, Ky.] In the winter of 1963-64, there were 15 (4 adult, 11 immature) bald eagles observed at the Ky. Woodlands Wildl. Refuge. The total number of bald eagles observed and the age ratio was approximately the same as prevailed for 1962-63.

Rowan, M. K. RELATIVE ABUNDANCE OF RAPTORIAL BIRDS IN THE CAPE PROVINCE. Ostrich 35(3): 224-227. Sept. 1964. WR 116: 70

[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.] Based on observations incidental to automobile travel on public highways.

Sladek, J. PRÍSPEVOK K POZNANIU POTRAVNEJ EKOLÓGIE MYSIAKA LESNÉHO BUTEO BUTEO L. [CONTRIBUTION TO THE KNOWLEDGE OF THE NUTRITION ECOLOGY OF BUTEO BUTEO L.] Zool. Listy 24(4): 331-344, illus., map. 1961. [From Biol. Abstr. 45(6), 1964. In Czech with German summ.] WR 116: 70

[Hochsch., Zool. Dept., Zvolen, Czechoslovakia.]

Sopyev, O. [SOME DATA ON THE ECOLOGY OF THE GOLDEN EAGLE (AQUILA CHRYSAËTOS) AND LITTLE OWL (ATHENE NOCTUA) IN THE EASTERN KARA-KUM DESERT.] Izvest. Akad. Nauk Turkmensk. SSR. Ser. Biol. Nauk 2: 79-83. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 24I1231. Transl. of Russian abstr.] WR 116: 70

Spofford, Walter R. THE GOLDEN EAGLE IN THE TRANS-PECOS AND EDWARDS PLATEAU OF TEXAS. Audubon Conserv. Rept. no. 1. 47 p. Nov. 1964. Available from Natl. Audubon Soc., 1130 Fifth Ave., New York, N. Y. $1.00. WR 116: 70

A report on the population status and economic importance of the golden eagle based on field work and interviews performed during Feb.-Mar. 1963 and Mar.-Apr. 1964. The total North American population of golden eagles is estimated as "between 8,000 and 10,000 birds." During the past 20 years an estimated 20,000 golden eagles were shot in the southwest.

Sukhinin, A. N. [A STUDY OF THE POSTEMBRYONAL DEVELOPMENT OF THE COMMON KESTREL (FALCO TINNUNCULUS TINNUNCULUS).] Izvest. Akad. Nauk Turkmensk. SSR. Ser. Biol. Nauk 4: 84-86. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I126. Transl. of Russian abstr.] WR 116: 70

Varshavskii, S. N. [TYPES OF HUNTING OF PREDATORY BIRDS OF OPEN LANDSCAPES WITH RESPECT TO THE ECOLOGICAL FEATURES AND FOOD SPECIALIZATIONS OF INDIVIDUAL SPECIES.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 1: 57-59. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 6I230. Transl. of Russian abstr.] WR 116: 71

Waterson, George. STUDIES OF LESS FAMILAR BIRDS: 130--WHITE-TAILED EAGLE. British Birds 57(11): 458-466 + 7 pls. Nov. 1964. WR 116: 71
With sections on population, breeding habitat, food, and breeding biology of Haliaëtus albicilla.

Yrsaliev, D. [BIOLOGY OF THE BLACK KITE IN KIRGIZ.] In: (Materials of the 3rd All Union Ornithological Conference, 1962.) L'vovsk. Univ. (L'vov) 2: 255-256. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 9I167. Transl. of Russian abstr.] WR 116: 71

Yrsaliev, D. [DATA ON THE BIOLOGY OF THE GOLDEN EAGLE (AQUILA CHRYSAËTOS).] Izvest. Akad. Nauk Kirgiz SSR Ser. Biol. 4(1): 83-87. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 4I178. Transl. of Russian abstr. Original (in Russian) with Kirgiz summ.] WR 116: 71

BLACKBIRDS, STARLINGS, CROWS

Adler, Helmut E., and John Gianutsos. THE ACCURACY OF THE 24-HOUR CLOCK OF THE STARLING. Am. Psychol. 17(6): 394. 1962. [From Biol. Abstr. 45(7), 1964.] WR 116: 71
[Yeshiva Univ., New York, N.Y.] Abstract only.

Barten, M. L. KRAAIENVARIA. [ON THE CARRION-CROW, CORVUS CORONE.] Levende Nat. 64(3): 64-66. 1961. [From Biol. Abstr. 45(5), 1964. In Dutch.] WR 116: 71

Beidleman, Richard G., and James H. Enderson. STARLING-PIÑON JAY ASSOCIATIONS IN SOUTHERN COLORADO. Condor 66(5): 437. Sept. 1964. WR 116: 71
[Colo. Coll., Colorado Springs.] Mixed flocks of piñon jays and starlings were observed feeding and moving together in a "rolling" pattern.

Burtt, Benjamin P. ONE HUNDRED MILLION STARLINGS -- PROBLEM IMMIGRANT AND ITS CONTROL. [N.Y.] Conservationist 19(2): 30-31, illus. Oct.-Nov. 1964. WR 116: 71
[Syracuse Univ., Syracuse, N.Y.] During the winter of 1963-64, a total of 55,000 starlings were trapped and killed in or near Syracuse, N.Y. Decoy traps were used, with two operated on dumps and one on the roof of a ten-story downtown building. The downtown trap, in the center of the starling roosting area, proved to be the most effective.

Busse, Przemyslaw. RYTMIKA DOBOWA GAWRONA (CORVUS FRUGILEGUS L.) W KOLONII LEGOWEJ W WARSZAWIE. [THE DAILY RHYTHMIC OF THE ROOK (CORVUS FRUGILEGUS L.) IN A NESTING COLONY IN WARSAW.] Acta Ornithol. 6(13): 209-230, illus. 1962. [From Biol. Abstr. 45(2), 1964. In Polish with Russian and English summ.] WR 116: 71
[Inst. Zool., Warsaw, Poland.]

Dobbs, A. ROOK NUMBERS IN NOTTINGHAMSHIRE OVER 35 YEARS. British Birds 57 (9): 360-364, 1 fig. Sept. 1964. WR 116: 71
County-wide censuses of breeding rooks (Corvus frugilegus) indicated a slight population decline during 1928-1932, a considerable increase during 1932-1944, an even greater increase during 1944-1958, and a major decline during 1958-1962. The increase during 1928-1958 was ascribed to increased grain farming. The decline during 1958-1962 was ascribed to increased use of toxic seed dressings.

Frieswijk, J. J., and H. Bresser. HET VERTREK VAN SPREEUWEN VAN DE SOCIALE SLAAPPLAATS. [DEPARTURE OF STARLINGS FROM THE SOCIAL SLEEPING QUARTERS.] Levende Nat. 64(5): 102-112, illus. 1961. [From Biol. Abstr. 45(5), 1964. In Dutch.] WR 116: 72

Haase, Bruce L. THE WINTER FLOCKING BEHAVIOR OF THE COMMON CROW (CORVUS BRACHYRYNCHOS BREHM). Ohio J. Sci. 63(4): 145-151, illus. 1963. [From Biol. Abstr. 45(7), 1964.] WR 116: 72

[Bowling Green State Univ., Bowling Green, Ohio.] The winter flocking behavior of the crow as found in the Lucas County roost areas of Northwestern Ohio was described and various environmental factors which might influence the daily evening return of the birds were evaluated. Upon arriving from distinct flyways the crows usually went 1st to a secondary roost and later to a final roost. A logarithmic filling of the roost by the crows was indicated, and light seemed to be a basic factor. A heavy cloud cover tended to be related to earlier flock formation, and on windy days arrival times were significantly (P=0.05) earlier than under calmer conditions. Temperature had no apparent influence.--Author.

Hudec, Karel, and Cestmir Folk. POSTNATAL DEVELOPMENT IN THE STARLING (STURNUS VULGARIS L.) UNDER NATURAL CONDITIONS. Zool. Listy 24(4): 305-330, illus. 1961. [From long abstr. in Biol. Abstr. 45(6), 1964. In English with Czech summ.] WR 116: 72

[Vertebratol. Lab., Czech Acad. Sci., Brno, Czechoslovakia.]

Ishunin, G. I., and B. N. Maksimov. [THE DIET OF THE BLACK CROW IN THE COASTAL ZONE OF THE AMU DARYA.] Ornitologiya (Moscow) 5: 276-280. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 51176. Transl. of Russian abstr.] WR 116: 72

Kuroda, N. THE ROOSTING BEHAVIOUR OF THE GREY STARLING. Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 3(2): 123-125. 1962. [From Biol. Abstr. 45(5), 1964. In Japanese.] WR 116: 72

Kuroda, Nagahisa. [WINTER ROOST DISTRIBUTION AND FEEDING DISPERSAL OF THE GREY STARLING IN KANTO PLAIN.] Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 3(3): 144-154. 1962. [From Biol. Abstr. 45(3), 1964. In Japanese.] WR 116: 72

Kuroda, Nagahisa. THE MOLTING OF YOUNG GRAY STARLINGS. Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 3: 260-273. 1963. [From Auk 81(4), 1964. In Japanese with English summ.] WR 116: 72

Pfeifer, S., and W. Keil. ZUM VERHALTEN VON STAREN (STURNUS VULGARIS) BEIM ÜBERFLIEGEN IHRER SCHLAFPLÄTZE DURCH HUBSCHRAUBER. [ON THE BEHAVIOR OF STARLINGS IF HELICOPTERS FLY OVER THEIR HIDING PLACES.] Z. Pflanzenkrankheiten 67(2): 87-90. 1960. [From Biol. Abstr. 45(1), 1964. In German.] WR 116: 72

Since the expulsion of starlings from their hiding places in extended reeds was impossible by phonoacoustic means, helicopters equipped with flashing lights were used. Repeated flying over the hiding places with lights on resulted in a permanent expulsion of starlings.--Auth. summ.

Pinowski, J., and A. Wasilewski. EINFLUSS EINIGER FAKTOREN AUF DIE ZAHL DER NEBELKRAHEN (CORVUS CORONE CORNIX L.) IN VERSCHIEDENEN BIOTOPEN. [THE INFLUENCE OF SOME FACTORS UPON THE NUMBERS OF HOODED CROW (CORVUS CORONE CORNIX L.) IN VARIOUS HABITATS.] Acta Ornithologica 6: 231-251. 1962. [From Auk 81(4), 1964. In German with Polish and Russian summ.] WR 116: 72

Priklonskii, S. G., B. V. Nekrasov, Ya. V. Sapetin, and I. M. Sapetina. [COMPARATIVE CHARACTERIZATION OF SPRING MIGRATION FLIGHTS OF CORVIDAE DURING 1957 OVER SOME POINTS OF THE CENTRAL VOLGA BASIN.] Trudy Oksk. Gos. Zapovednika 4: 287-299. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I186. Transl. of Russian abstr.] WR 116: 73

Sawyer, Edmund J. NON-AGGRESSION IN THE COWBIRD (MOLOTHRUS ATER). Murrelet 45(3): 49. Sept.-Dec. 1964. WR 116: 73

[Burton, Wash.] Unlike other species, cowbirds visited a feeding station without friction with other birds already present. "Commensalism seems a more fitting word [than parasitism] for the role of the cowbird in relation to the various species on which its eggs are foisted."

Starkov, I. A. [THE BIOLOGY OF THE TRANSBAIKAL BLUE MAGPIE (CYANOPICA CYANA CYANA PALL.).] Zool. Zhur. 37(8): 1262-1263. 1958. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1959, no. 35191. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 73

Svensson, Sören. VIKTVARIATIONER HOS UNGA STARAR (STURNUS VULGARIS). [WEIGHT FLUCTUATIONS IN YOUNG STARLINGS.] Vår Fågelvärld 23: 43-56. 1964. [From Bird-Banding 35(4), 1964. In Swedish with English summ.] WR 116: 73

Wydoski, Richard S. SEASONAL CHANGES IN THE COLOR OF STARLING BILLS. Auk 81(4): 542-550, 1 fig. Oct. 1964. WR 116: 73

[Pa. State Univ., University Park.] Starlings at Baltimore, Md., start to show yellow in their bills in Oct.; those at State College, Pa., do not show the yellow bill color until Jan. By late Mar. or early Apr., however, bill colors are the same at both locations. The complete change from black to yellow bills takes about 6 months at Baltimore and 4-6 weeks at State College. The color changes in the starling's bill must be accounted for by changes in deposition of melanin.

OTHER BIRDS

Aleksandrova, I. V. [FOOD OF THE SONG THRUSH DURING THE NESTING PERIOD.] Zool. Zhur. 38(1): 135-136. 1959. [From Biol. Abstr. 45(7), 1964, from Referat. Zhur., Biol., 1959, no. 88872. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 73

Bartholomew, George A., and Thomas R. Howell. EXPERIMENTS ON NESTING BEHAVIOUR OF LAYSAN AND BLACK-FOOTED ALBATROSSES. Animal Behaviour 12(4): 549-559, 4 figs. Oct. 1964. WR 116: 73

[Univ. Calif., Los Angeles.] An experimental study of the nesting behavior of the Laysan albatross (Diomedea immutabilis) and the black-footed albatross (D. nigripes) was made on Midway Island. Birds did not attempt to retrieve displaced eggs or chicks. Immutabilis usually chose the empty nest rather than a displaced egg, but nigripes usually chose the egg. Both species usually chose the nest rather than a displaced chick. Given a choice between an egg or a chick on opposite sides of an empty nest, both species usually chose the egg. Foreign objects were readily accepted as substitutes for eggs, but eggs were chosen in situations where choice was permitted. Relocation of nests was usually not accepted.--From summ.

Bassini, B., and A. M. Pilla. RILIEVI STATISTICI SULLA MIGRAZIONE DEL FRINGUELLO (FRINGILLA COELEBS L.). [STATISTICAL RESULTS ON THE MIGRATION OF THE CHAFFINCH (FRINGILLA COELEBS L.).] Ricerche Zool. Appl. alla Caccia 37: 3-14, 4 figs. 1963. In Italian with French, English and German summ. WR 116: 73

Daily catches for three banding stations were studied statistically to determine the influence of latitude and longitude upon the percentage distributions of the catch.

Bel'skii, N. V. [WINTER MIGRATIONS OF THE GREAT TIT (PARUS MAJOR) AND NUTHATCH (SITTA EUROPAEA) IN A CULTIVATED AREA.] Ornitologiya (Moscow) 5: 309-313. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I224. Transl. of Russian abstr.] WR 116: 74

Blume, C. A. KROGNAEBBENS (PINICOLA ENUCLEATOR L.) INVASTION I 1954-1955 OG NOGLE BEMAERKNIGER OM DENS FOREKOMST IN RELATION TIL NYERE INVASIONER I SVERIGE. [THE IRRUPTION IN 1954-1955 OF THE PINE GROSBEAK, PINICOLA ENUCLEATOR L., WITH SOME REMARKS ON ITS OCCURRENCE IN RELATION TO RECENT IRRUPTIONS IN SWEDEN.] Dansk Ornithol. Forenings Tidsskr. 57(1): 19-21, illus. 1963. [From Biol. Abstr. 45(7), 1964. In Danish with English summ.] WR 116: 74

Brockway, B. F. SOCIAL INFLUENCES ON REPRODUCTIVE PHYSIOLOGY AND ETHOLOGY OF BUDGERIGARS (MELOPSITTACUS UNDULATUS). Animal Behaviour 12(4): 493-501. Oct. 1964. WR 116: 74
[Ohio State Univ., Columbus.] Being able to see and hear breeding activities of other pairs stimulated gonad development and reproductive behavior of paired budgerigars.

Crebbs, Thomas C., Jr. LONGEVITY IN THE PLAIN-COLORED TANAGER, TANGARA INORNATA. Bird-Banding 35(4): 264. Oct. 1964. WR 116: 74
[Rutgers Univ., New Brunswick, N. J.] Three banded birds were 6-7 years old.

Crook, John Hurrell. COMPARATIVE STUDIES ON THE REPRODUCTIVE BEHAVIOUR OF TWO CLOSELY RELATED WEAVER BIRD SPECIES (PLOCEUS CUCULLATUS AND PLOCEUS NIGERRIMUS) AND THEIR RACES. Behaviour 21(3/4): 177-232, illus., map. 1963. [From Biol. Abstr. 45(3), 1964. In English with French summ.] WR 116: 74
[Sub-Dept. Animal Behaviour, Zool. Dept., Cambridge, England.]

Derim, E. N. [BEHAVIOR OF CAPRIMULGUS EUROPAEUS DURING THE NESTING PERIOD.] Ornitologiya (Moscow) 5: 410-413. 1962. [From Biol. Abstr. 45(4), 1964, from Referat. Zhur., Biol., 1963, no. 13I149. Transl. of Russian abstr.] WR 116: 74

Emlen, J. T., and R. L. Penney. DISTANCE NAVIGATION IN THE ADELIE PENGUIN. Ibis 106(4): 417-431, 6 figs., 1 map. Oct. 1964. WR 116: 74
[Univ. Wis., Madison.] Homing experiments with male Adelie penguins (Pygoscelis adeliae) indicated that the birds possessed a navigation mechanism which used the sun as the primary orientation cue plus a biological clock to compensate for changing sun azimuth positions.--From summ.

Gavrilov, E. I. [EXTERMINATION OF SPARROWS BY POISONING WITH POISONED BAIT IN KAZAKHSTAN.] Ornitologiya (Moscow) 5: 314-319. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 7I259. Transl. of Russian abstr.] WR 116: 74

Gladwin, T. W., and B. S. Nau. A STUDY OF SWIFT WEIGHTS. British Birds 57 (9): 344-356, 6 figs. Sept. 1964. WR 116: 74
Differences in body weights of swifts (Apus apus) during days and seasons are discussed.

Greenwood, Jeremy. THE FLEDGING OF THE GUILLIMOT URIA AALGE WITH NOTES ON THE RAZORBILL ALCA TORDA. Ibis 106(4): 469-481, 3 figs. Oct. 1964. WR 116: 74
[63 Hillery Rd., Worcester, England.]

Gross, Alfred O. NESTING OF THE BLACK-TAILED FLYCATCHER ON BARRO COLORADO ISLAND. Wilson Bull. 76(3): 248-256, 2 figs. Sept. 1964. WR 116: 74
[11 Boody St., Brunswick, Maine.] With observations on nest, eggs, and young of Myiobius atricaudus.

Gusev, V. M., and S. N. Bednyi. [DATA ON THE ECOLOGY OF THE EASTERN RED-HEADED SHRIKE (LANIUS SENATOR NILOTICUS BONAPARTE) IN EASTERN GEORGIA.] Trudy Inst. Zool. Akad. Nauk Gruzinsk. SSR 18: 41-51. 1961. [From Biol. Abstr. 45 (4), 1964, from Referat. Zhur., Biol., 1962, no 23I201. Transl. of Russian abstr.] WR 116: 74

Havlin, Jiri. ROZMNOZOVANI KOSA CERNEHO (TURDUS MERULA L.). [REPRODUCTION IN THE BLACKBIRD (TURDUS MERULA L.).] Zool. Listy 12(3): 195-216, illus. 1963. [From long abstr. in Biol. Abstr. 45(6), 1964. In Czech with English summ.] WR 116: 75

[Czech Acad. Sci., Lab. Vertebrate Zool., Brno, Czechoslovakia.]

Hespenheide, Henry A. COMPETITION AND THE GENUS TYRANNUS. Wilson Bull. 76(3): 265-281, 5 figs. Sept. 1964. WR 116: 75

[Duke Univ., Durham, N. C.] Some of the ecological factors associated with species formation are considered.

Howell, Thomas R. MATING BEHAVIOR OF THE MONTEZUMA OROPENDOLA. Condor 66 (6): 511. Nov. 1964. WR 116: 75

[Univ. Calif., Los Angeles.] Description of the mating behavior of Gymnostinops montezuma.

Il'enko, A. I. [FACTORS DETERMINING THE BEGINNING OF REPRODUCTION IN HOUSE SPARROWS (PASSER DOMESTICUS L.) IN MOSCOW.] Zool. Zhur. 37(12): 1867-1873. 1958. [From Biol. Abstr. 45(1), 1964, from Referat. Zhur., Biol., 1959, no. 88866. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 116: 75

Inozemtsev, A. A. [DATA ON THE ECOLOGY OF THE BLUE TIT (PARUS CAERULEUS) AND GREAT TIT (PARUS MAJOR) IN THE MOSCOW OBLAST.] Ornitologiya (Moscow) 4: 103-116. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1963, no. 7I223. Transl. of Russian abstr.] WR 116: 75

Kartashev, N. N. [THE BIOLOGY OF KINGFISHERS IN THE OKSK FOREST PRESERVE.] Trudy Oksk. Gos. Zapovednika 4: 271-286. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 8I182. Transl. of Russian abstr.] WR 116: 75

Kilham, Lawrence. THE RELATIONS OF BREEDING YELLOW-BELLIED SAPSUCKERS TO WOUNDED BIRCHES AND OTHER TREES. Auk 81(4): 520-527, 5 figs. Oct. 1964. WR 116: 75

[Dartmouth Med. School, Hanover, N. H.] Summary: Birches of various species are main sources of sap for Yellow-bellied Sapsuckers in summer in central New Hampshire. Wounded and weakened birches are singled out by the birds from among healthy trees. In two areas where birches had been injured by man, one along a dirt road by snow plows and the other where hundreds of trees had been girdled, sapsuckers drilled holes just above the areas of injury. Sap or phloem exudate, moving down from the leaves in summer, is a rich source of nutrients. Sapsuckers appear to induce a greater and more concentrated flow by repeated wounding of a single place with their drill holes.

Konishi, Masakazu. SONG VARIATION IN A POPULATION OF OREGON JUNCOS. Condor 66(5): 423-436, 8 figs. Sept. 1964. WR 116: 75

[Max-Planck Inst., 8 München 23, Germany.] Variation in the following parameters are discussed: number of syllables, song duration, length of intervals between syllables, syllable duration, maximum frequency (pitch) of song, and minimum frequency of song.

Kovshar', A. F. [ASPECTS OF THE ECOLOGY OF THE PARADISE FLYCATCHER (TALASKIY ALTAU).] Ornitologiya (Moscow) 4: 234-236. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 5I195. Transl. of Russian abstr.] WR 116: 75

Kuroda, N. THE STOMACH STONES OF THE YOUNG ADELIE PENGUINS. Misc. Repts. Yamashina's Inst. Ornithol. & Zool. 3(2): 126-128. 1962. [From Biol. Abstr. 45(5), 1964.] WR 116: 75

Kuzyakin, A. P. [ON THE BIOLOGY OF THE LONG-BILLED (MARBLED) MURRELET.] Ornitologiya (Moscow) 6: 315-320. 1963. [From Bird-Banding 35(4), 1964. In Russian.] WR 116: 76

Lacki, Albin. OBSERWACJE NAD BIOLOGIA LEGOW WROBLA DOMOWEGO, PASSER DOMESTICUS (L.). [OBSERVATIONS ON THE BIOLOGY OF CLUTCHES OF HOUSE-SPARROW, PASSER DOMESTICUS (L.).] Acta Ornithol. 6(12): 195-207, illus. 1962. [From Biol. Abstr. 45(2), 1964. In Polish with Russian and English summ.] WR 116: 76
[Inst. Zool., Warsaw, Poland.]

Salganskii, A. A., and L. A. Salganskaya. [RHEAS IN THE USSR.] Priroda 10: 104-105. 1959. [From Biol. Abstr. 45(6), 1964, from Referat. Zhur., Biol., 1960, no. 71007. Transl. of Russian abstr.] WR 116: 76
A flock of rheas acclimatized in Askania Nova (Ukraine) before World War II consisted of 33-44 birds; only 6 young survived the war period. By 1951 the flock grew to 32 specimens, but decreased again during the last few years. The biorhythms of the rheas changed in Askania Nova: the timing of their nesting seasons is identical with those of the birds of the Northern Hemisphere.

Sevast'yanov, G. N. [DISTRIBUTION OF NESTING HOLLOWS IN THE ARKHANGEL'SK TAIGA.] Ornitologiya (Moscow) 5: 86-91. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 8I181. Transl. of Russian abstr.] WR 116: 76
Cavities hollowed out by the great spotted woodpecker (Dendrocopus major), were found in pine (40), aspen (35), birch (3), fir (2), larch (1); 52 of them were growing trees damaged in one respect or another (dry crown, heart rot, etc.).

Shkatulova, A. P. [NOTES ON THE BIOLOGY OF THE GERMENDER AND THE WHITE-CAPPED BUNTING IN THE CHITINSKAYA REGION.] Ornitologiya (Moscow) 4: 176-181. 1962. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 5I186. Transl. of Russian abstr.] WR 116: 76

Skead, C. J. BIRDS OF THE MACCHIA ON THE EASTERN AMATOLE MOUNTAINS, CAPE PROVINCE. Ostrich 35(3): 228-233. Sept. 1964. WR 116: 76
[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.]
Comments on status and ecological relations of the 40 spp. observed.

Skead, C. J. THE OVERLAND FLIGHTS AND THE FEEDING HABITS OF THE CAPE PARROT, POICEPHALUS ROBUSTUS (GMELIN) IN THE EASTERN CAPE PROVINCE. Ostrich 35(3): 202-223. Sept. 1964. WR 116: 76
[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.]

Skokova, N. N. [PUFFIN OF THE AINOV ISLANDS.] Ornitologiya (Moscow) 5: 7-12. 1962. [From Biol. Abstr. 45(5), 1964, from Referat. Zhur., Biol., 1962, no. 9I174. Transl. of Russian abstr.] WR 116: 76

Sladen, W. J. L. THE DISTRIBUTION OF THE ADÉLIE AND CHINSTRAP PENGUINS. Proc. First SCAR Symposium Antarctic Biol. (Hermann, Paris.) p. 359-365, 1 fig. 1964. In English with French summ. WR 116: 76
[Johns Hopkins Univ., Baltimore, Md.] Populations and ranges of the Adélie penguin (Pygoscelis adeliae) and the chinstrap penguin (P. antarctica) have expanded in recent years. Three possible causes for these increases are: (1) penguins are no longer being killed by man for blubber; (2) changing climatic conditions; and (3) increase in food supply following over-harvest of whale bone whales which have the same diet as the penguins.

Sokolowski, Jan. BADANIA NAD ZMIENNOSCIA INDYWIDUALNA I BIOLOGIA SZCZYGLA, CARDUELIS CARDUELIS (L.), W POLSCE. [STUDIES ON THE INDIVIDUAL VARIATION AND BIOLOGY OF THE GOLDFINCH, CARDUELIS CARDUELIS (L.), IN POLAND.] Acta Ornithol. 7(2): 33-67, illus. 1962. [From Biol. Abstr. 45(7), 1964. In Polish with Russian and English summ.] WR 116: 76

Sovis, B. ZAJIMAVY PRIPAD HNIEZDINIA HRDLICKY ZAHRADNEJ (STREPTOPELIA DECAOTCO). [INTERESTING NESTING HABITS OF STREPTOPELIA DECAOTCO.] Ziva 11 237-238, illus. 1961. [From Biol. Abstr. 45(6), 1964. In Czech.] WR 116: 77

S. decaotco is known for its adaptability to new conditions. Spreading cities limit the available spots for nesting and force the S. decaotco to find new ways to build nests, using new materials. Examples of unusual nesting places such as on top of telephone poles and television antennas, are given. In all cases the nests were made out of man-made materials; insulated wires, string and bits of aluminum foil. The number of S. decaotco is steadily increasing and in certain areas the birds are becoming offenders to agriculture. --J. Burnett.

Thoresen, Asa C. THE BREEDING BEHAVIOR OF THE CASSIN AUKLET. Condor 66(6): 456-476, 7 figs. Nov. 1964. WR 116: 77

[Andrews Univ., Berrien Springs, Mich.] Various behavioral displays are described as associated with mating, burrow excavating, fighting, preservation of the pair bond, and recreation. Among the more active displays were weed plucking, billing, passing, wing-raising, calling, forward-jabbing, face-to-face combat, leap-frogging, tagging and departure ceremonies. The activities of the birds while at sea are briefly discussed and it is suggested that the habit of bill-dipping is associated with the diving impulse which is linked with the catching of food and the escape from enemies. Total mortality of eggs and young was 73.4%, but 65.5% of the chicks which hatched successfully reached maturity. The average fledging period was found to be 44.7 days.--From summ.

Vilks, K. A., and E. K. Vilks. [SEASONAL DISPERSION OF TITS AND NUTHATCHES IN THE LATVIAN SSR AND THEIR WINTER AUXILIARY FEEDING.] In: (Ecology and migration of birds of the Baltic region.) Akad. Latviisk. SSR (Riga). p. 151-160, map. 1961. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1962, no. 23I187. Transl. of Russian abstr.] WR 116: 77

Winterbottom, J. M. NOTES ON THE WAGTAILS OF MOTACILLA SOUTHERN AFRICA. Ostrich 35(3): 129-141. Sept. 1964. WR 116: 77

[Univ. Cape Town, Cape Town, Cape of Good Hope, Union South Africa.] Contains life history information on five species of Motacilla.

REPTILES AND AMPHIBIANS

Awbrey, Frank T. HOMING AND HOME RANGE IN BUFO VALLICEPS. Texas J. Sci. 15(2): 127-141. 1963. [From Biol. Abstr. 45(8), 1964.] WR 116: 77

[Univ. Texas, Austin.]

Brooks, Garnett R., Jr. COPULATORY POSITION IN THE GROUND SKINK, LYGOSOMA LATERALE. Herpetologica 20(3): 207-208, 1 fig. Sept. 1964. WR 116: 77

[Coll. William & Mary, Williamsburg, Va.]

Brown, Dudley A. NESTING OF A CAPTIVE GOPHERUS BERLANDIERI (AGASSIZ). Herpetologica 20(3): 209-210. Sept. 1964. WR 116: 77

[Ind. State Coll., Terre Haute.] Describes process of egg laying.

Burnett, Clyde. FLORIDA'S ALLIGATOR DILEMMA. Sports Afield 152(1): 19, 57-59, illus. July 1964. WR 116: 77

A good popular article on the ecological and economic importance of the alligator and on the problems associated with enforcement of legal protection.

Bustard, H. Robert. DEFENSIVE BEHAVIOR SHOWN BY AUSTRALIAN GECKOS, GENUS DIPLODACTYLUS. Herpetologica 20(3): 198-200, 2 figs. Sept. 1964. WR 116: 77

[Australian Natl. Univ., Canberra.] A viscous, strong smelling substance is ejected and thrown 1-2 feet from the tail. By controlling the position of the tail, the substance can be aimed with reasonable accuracy. In addition, one species (D. williamsi) possesses a well-developed warning display in which it opens its mouth and shows the dark purple and bright blue of the mouth's interior.

Cook, Francis R. COMMUNAL EGG LAYING IN THE SMOOTH GREEN SNAKE. Herpetologica 20(3): 206. Sept. 1964. WR 116: 78
[Natl. Museum Canada, Ottawa, Ontario.] Twenty-seven eggs of the green snake (Opheodrys vernalis vernalis) were found in one place. On the basis of published evidence on clutch sizes and the fact that 3 stages of embryonic development were represented among the eggs, the 27 eggs were assumed to have been laid by three females.

Dennis, David M. NOTES ON THE NESTING HABITS OF DESMOGNATHUS FUSCUS FUSCUS (RAF.) IN LICKING COUNTY, OHIO. J. Ohio Herpetol. Soc. 3(3): 28-35. 1962. [From Biol. Abstr. 45(2), 1964.] WR 116: 78

Fitch, Alice V. TEMPERATURE TOLERANCES OF EMBRYONIC EUMECES. Herpetologica 20(3): 184-187. Sept. 1964. WR 116: 78
[Univ. Kans., Lawrence.] "Perhaps the only significant difference between tolerances of embryos and adults is that the embryos can tolerate extreme temperatures for longer periods. The stage of development of the embryo has no effect, or very little effect, on its temperature tolerance. In their developmental stages Eumeces obsoletus and E. fasciatus are much alike in ranges of tolerance."

Heatwole, Harold, and Audrey Heatwole. WEIGHT-LENGTH CURVE OF THE SALAMANDER, PLETHODON CINEREUS. J. Ohio Herpetol. Soc. 3(3): 37-39. 1962. [From Biol. Abstr. 45(2), 1964.] WR 116: 78
[Univ. Puerto Rico, Rio Piedras.]

Heatwole, Harold, Angel Maldonado, and Juhani Ojasti. A TRAPPING METHOD FOR CAPTURING LIZARDS. Herpetologica 20(3): 212-213. Sept. 1964. WR 116: 78
[Univ. Puerto Rico, Rio Piedras.] Museum snap traps were baited with beetles and grasshoppers with their backs tied to the trap treadles. Small mammal live traps were also baited with meat, fruit, peanut butter, etc., and used to capture lizards.

Hutchison, Victor H., and Mary Judith Dady. THE VIABILITY OF RANA PIPIENS AND BUFO TERRESTRIS SUBMERGED AT DIFFERENT TEMPERATURES. Herpetologica 20(3): 149-162, 6 figs. Sept. 1964. WR 116: 78
[Univ. R. I., Kingston.] The semiaquatic leopard frog, Rana pipiens, has a significantly longer survival time, lower metabolism, greater utilization of dissolved oxygen, and lower increases in weight through water uptake when submerged at different temperatures in water sealed from the atmosphere than does the terrestrial southern toad, Bufo terrestris. Survival of both species is related to water temperature, survival being much greater at the lower temperatures.--From summ.

Khonyakina, Z. P. [SOME DATA ON FEEDING OF RANA RIDIBUNDA AND BUFO VIRIDIS IN THE VICINITY OF THE TOWN MAKHACHKALA.] Uch. Zap. Dagestansk. Univ. 7(2): 91-103. 1961. [From Biol. Abstr. 45(2), 1964, from Referat. Zhur., Biol., 1963, no. 11I102. Transl. of Russian abstr.] WR 116: 78

Kushniruk, V. A. [THE BIOLOGY OF TRITURUS MONTANDONI BOULENG, 1880.] Zool. Zhur. 42(2): 300-302. 1963. [From Biol. Abstr. 45(2), 1964. In Russian with English summ.] WR 116: 78
[L'vov State Univ., L'vov, USSR.]

Rand, A. Stanley. ECOLOGICAL DISTRIBUTION IN ANOLINE LIZARDS OF PUERTO RICO. Ecology 45(4): 745-752, 4 figs. Autumn 1964. WR 116: 78
[Smithsonian Inst., Drawer C, Balboa, Canal Zone.] The spatial separation among Puerto Rican Anolis can be suggested to be of ecological significance because it reduces interspecific competition and because it allows the various species to adapt more precisely to different parts of the available habitat. Thus members of a genus may exploit the habitat more efficiently.

Rand, A. Stanley. INVERSE RELATIONSHIP BETWEEN TEMPERATURE AND SHYNESS IN THE LIZARD ANOLIS LINEATOPUS. Ecology 45(4): 863-864, 1 fig. Autumn 1964. WR 116: 79

[Smithsonian Inst., Drawer C, Balboa, Canal Zone.] Abstract: An increase in flight distance with a decrease in body temperature in 32 male Anolis lineatopus at Mona, Jamaica, supports more casual field observations that these lizards are shier when they are cold than when they are warm. It is suggested that this increased shyness compensates for the slowing effects of lower temperatures on biological processes and so helps protect these arboreal lizards from warm-blooded predators.

Schifter, Herbert. BEOBACHTUNGEN AM KURZHORN-CHAMÄLEON. [OBSERVATIONS ON THE SHORT-HORNED CHAMELEON.] Natur und Museum 94(5): 193-200, 5 figs. May 1964. In German. WR 116: 79

General observations on captive specimens of Chamaeleo brevicornis.

Schmid, William D., and James C. Underhill. SODIUM TRANSPORT BY SKIN OF AMPHIBIAN SPECIES FROM DIFFERENT HABITATS. Ecology 45(4): 864-865, 1 fig. Autumn 1964. WR 116: 79

[Univ. N. Dak., Grand Forks.] Net sodium transport was measured in isolated skin preparations for five species of anuran amphibians from different habitats. Although previous reports had described differences in the rates of water uptake for anurans from different habitats, the results of the present study have indicated a lack of significant differences in active sodium flux.

Schmidt, Robert S. HEARING AND RESPONSES TO CALLS IN ANURANS. Behaviour 23 (3-4): 280-293, 3 figs. 1964. In English with German summ. WR 116: 79

[Univ. Chicago, Chicago, Ill.] Nerve responses evoked by tone pips of known frequency were recorded from the medulla of Bufo americanus, Rana pipiens, Rana clamitans, Pseudacris triseriata, and Hyla crucifer. The data obtained here and by others suggest that even for location of males by females, the repetitive nature and frequency of calls may be of only minor importance. Rather, trill rate is implicated as an important call parameter.--From summ.

Slater, James R. DISTRIBUTION OF WASHINGTON REPTILES. Occas. Papers Dept. Biol. Univ. Puget Sound 23/24. p. 212-233. 1963. [From Biol. Abstr. 45(7), 1964.] WR 116: 79

[Dept. Biol., Univ. Puget Sound, Tacoma, Wash.]

Slater, James R. A KEY TO THE ADULT REPTILES OF WASHINGTON STATE. Occas. Papers Dept. Biol. Univ. Puget Sound 23/24. p. 209-211. 1963. [From Biol. Abstr. 45(7), 1964.] WR 116: 79

[Dept. Biol., Univ. Puget Sound, Tacoma, Wash.]

Wood, J. T., and R. H. Rageot. THE NESTING OF THE MANY-LINED SALAMANDER IN THE DISMAL SWAMP. Va. J. Sci. 14(3): 121-125, illus. 1963. [From Biol. Abstr. 45(2), 1964.] WR 116: 79

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